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PROVE-OUT RAM ASSESSMENT REPORT FOR THE 155 MM M483 LAP LINE AT KANSAS ARMY AMMUNITION PLANT

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US ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND
PRODUCT ASSURANCE DIRECTORATE
DOVER, NEW JERSEY

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During September 1976, Kansas AAP developed a Demonstration Test Plan (DTP) to govern the prove-out test for Project 5745509, 155 mm M483A1 Automated Assembly and Pack-Out System at KAAP. An initial prove-out was begun in November 1976 and completed in March 1977. The results of this prove-out indicated that the equipment in its configuration at the time would not meet established requirements. During the next eight months, a series of improvements were made to both the body-loading and fuze assembly systems. In

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20. Abstract (continued)

November 1977, another prove-out test was initiated; the test ended on 30 December 1977. The results of this test showed that the equipment satisfies test requirements and is capable of meeting a mobilization rate of 42,000 rounds per month. This report provides the details of the reliability, availability, maintainability (RAM), and production data analyses upon which this conclusion is based.

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INTRODUCTION

This report was prepared to provide an independent assessment of the system performance and capability during the production period, 15 November 1977 to 30 December 1977, at the request of the Office of the Project Manager for Production Base Modernization (PBM). The intent of this report is to document equipment performance in terms of RAM characteristics during the prove-out test. It is apparent from the RAM data that a significant improvement in equipment performance has occurred since the initial assessment of this line during the October 1976 to March 1977 time frame. This performance growth is primarily attributed to equipment design modifications and production experience.

In addition, this report identifies areas of equipment deficiency and recommends improvements to increase efficiency which should be implemented prior to future procurements of similar equipment. It also presents quantitative estimates of equipment RAM characteristics resulting from a computerized RAM data analysis. For those who must make a decision as to acceptance/rejection/redesign or duplication of this line, this report serves as an additional source of information.

Appendixes A and B provide the information and data on which the conclusions and recommendations are based.

TEST OBJECTIVE

The objective of the prove-out test was to demonstrate that the equipment system is capable of:

1. Producing an acceptable product, the M483 projectile, in accordance with the applicable military specification, MIL-P-48749.

2. Producing the product at the mobilization (MOB) rate, 42,000 rounds per month on a 500-hour basis.

For the automated line to satisfactorily pass the test, it had to demonstrate that it could produce at the sustained rate of 42,000 rounds/mo. On a per-shift basis this is equivalent to:

$$\frac{42{,}000 \text{ round/month}}{\frac{500 \text{ hr/month}}{8 \text{ hr/shift}}} = 672 \text{ rounds/shift}$$

EQUIPMENT TEST REQUIREMENTS

To satisfactorily pass the test, each type of equipment had to demonstrate that it could produce an acceptable product at its specified design rate during the scheduled production time of 400 minutes per day for 5 days. The design rates for the various types of equipment are:

Adapter hardness verification - 90 parts/min

Grenade hardness verification - 90 parts/min

Grenade body loader system - 90 parts/min

Fuze assembly system - 30 parts/min

Final assembly/pack-out - 1.8 parts/min

The automated M483 LAP line at KAAP is comprised of the following number of each type of equipment:

Type	Number of Machines
Adapter hardness verification	1
Grenade hardness verification	3
Grenade body loader system	3
Fuze assembly system	10
Final assembly/pack-out	One line (serially arranged)

In order to meet the MOB rate requirement for the production line, the following minimum net shift rates for each system had to be observed during the test:

Type	Minimum Net Rate
Adapter hardness verification	5376 adapters/shift
Grenade hardness verification	59136 grenades/shift

Grenade body loader system	59136 grenades/shift
Fuze assembly system	59136 grenades/shift
Final assembly/pack-out	672 projectiles/shift

DEFINITIONS

The following definitions and assumptions were used in the data analysis of this system:

Equipment Stop Codes

Code 0 - Start of Shift
Code 1 - End of Shift
Code 2 - Break/Lunch
Code 3 - Unscheduled Stop (Failure)
Code 4 - End of Test
Code 5 - Preventive Maintenance
Code 6 - Administrative Downtime

Outliers

Code 7 - Outlying Data

One of these codes appears in column 15 on each computer data card required for the computer analysis. They are presented here because they provide a simple way of defining the terms used in this report.

Scheduled Uptime = Total Shift Time - Σ(Code 2 + Code 6 + Code 7)

Actual Uptime = Scheduled Uptime - Σ(Code 3 + Code 5)

Availability = Actual Uptime/Scheduled Uptime

MTBF = Mean-Time-Between-Failures

MTTR = Mean-Time-to-Repair (Mean Downtime)

Observed Rate = Quantity Produced/Actual Uptime

Net Rate = (Quantity Produced - Rejects)/Scheduled Uptime

Variations noted in the scheduled uptimes are attributed to the system operating into or during breaks and lunch periods, early or late start-ups and maintenance running into break/lunch periods.

RESULTS OF PROVE-OUT TEST

RAM Summary

Overall estimates of RAM characteristics, for each production area based on the prove-out data, are provided in Table I-1. The last column of this table provides the estimates of availability for each system except hardness verification based on data gathered through March 1977 at KAAP. Substantial improvement in all areas is evident.

Table I-1. System RAM Summary.

	No. Failures	MTTR	MTBF	Present Availability	March 1977 Availability
Hardness verification	65	1.27	120.1	.990	N/A
Body loading	284	1.48	9.48	.865	.448
Fuze assembly	3176	0.71	3.51	.832	.476
Final assembly/ pack-out	75	1.23	499.5	.946	.862

Production Summary

Daily production of assembled grenades and packed out projectiles during the prove-out test is summarized in Table I-2. These results compare very favorably to the MOB requirements of 59136 grenades/ shift and 672 projectiles/shift.

Expected Production Capability

Based upon the results of the prove-out test, it is anticipated that KAAP could produce in excess of the MOB rate of 42,000 projectiles per month on a 3/8/5 basis using all equipment and a scheduled uptime of 400 minutes per shift. The expected production quantities for loaded grenades, assembled grenades, and loaded projectiles can be calculated using the following formulas:

Grenade Loading and Fuze Assembly

$$\text{Prod Qty} = \frac{(\text{observed rate})\,(\text{avail})\,(\text{sched uptime})\,(\text{no. machines})}{1 + \text{reject rate}}$$

Projectile Loading/Pack-Out

Prod Qty = Net rate x sched uptime

Application of these formulas results in the following expected production quantities:

Grenade Loading

$$\text{Prod Qty} = \frac{(100.4)\,(0.865)\,(3)\,(400)}{1.006} = 103,594\ \frac{\text{grenades}}{\text{shift}}$$

Grenade Assembly

$$\text{Prod Qty} = \frac{(27.5)\,(0.832)\,(10)\,(400)}{1.0056} = 91,010\ \frac{\text{grenades}}{\text{shift}}$$

Projectile Loading/Pack-Out

$$\text{Prod Qty} = 1.90 \times 400 = \frac{\text{projectiles}}{\text{shift}}$$

In terms of the MOB rates, 42,000 projectiles per month is equivalent to:

$$\frac{42,000\ \text{proj/mon}}{62.5\ \text{shift/mon}} = 672\ \text{proj/shift}$$

$$\text{AND net rate} = \frac{672\ \text{proj/shift}}{400\ \text{min/shift}} = 1.68\ \text{proj/min}$$

The net rate demonstrated by KAAP during the test was 1.90 projectiles per minute. Therefore, even with the consequent reduced efficiency of multi-shift operation, KAAP would exceed the MOB rate if required to produce on a 3/8/5 basis.

TABLE I-2
PRODUCTION SUMMARY DURING PROVE-OUT
(11/15/77 THRU 12/30/77)

WEEK	ASSEMBLED GRENADES DAILY RESULTS					PROJECTILES PACKED OUT DAILY RESULTS				
11/15-11/18	-	63744	61796	67008	64012	-	760	680	660	784
11/28-12/2	75594	79296	55784	68076	62128	840	928	768	760	767
12/5-12/9	71559	53012	62976	68252	61824	744	760	768	760	772
12/12-12/16	67968	82048	79552	76608	75712	768	852	831	816	800
12/19-12/22	78208	68130	61888	56174	-	760	784	820	784	-
12/27-12/30	-	72384	75188	64256	51264	-	800	704	704	800

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Based upon the prove-out test results, Kansas AAP demonstrated that the 155 mm M483 LAP line is capable of meeting the mobilization rate if required to produce on a 3/8/5 shift schedule. These results indicate a substantial improvement in RAM and production performance over what was observed a year ago at KAAP. It is anticipated that further improvements will result from additional experience with operation of the production equipment.

2. The fuze assembly machines will show a significant increase in availability and production output if the fuze feed and replacement problem is corrected. They will also require less repetitive maintenance; this problem was responsible for 40% of the failures and represented 38% of the total system repair time and associated line maintenance costs.

3. The unwinding of fuze ribbons is a serious problem. Although it is not directly associated with a RAM problem, it does require considerable manpower to rewind these ribbons and, therefore, reduces the overall efficiency of the fuze assembly machine operation.

4. The hardness verification equipment performed as expected and demonstrated an availability of 99%.

5. The body-loading system experienced infeed nest jam problems with the ultrasonic cleaner, hung pallets in the powder feed system, infeed body assembly jams and upper cam jams in the pellet press, and cone jams in the cone swage area. These problems appear to have simple solutions since they do not involve complex material-handling equipment. Improvements in these areas would result in a significant increase in the system availability and production output.

6. The projectile loading/pack-out equipment experienced few problems during the prove-out test. However, since it is serially arranged, major problems could occur if a one-of-a-kind piece of equipment (e.g., torque test machine) experienced significant downtime on any given day. The performance of this line could be greatly improved by using parallel grenade stacking stations and providing for additional equipment which would be in parallel with the present equipment at the base plug torque station, zone weigh station, and leak test station.

Recommendations

1. Based upon results of the prove-out test, it is recommended that the line be accepted and transferred to ARRCOM.

2. Since the fuze feed and placement is a serious problem, improvement or redesign should be considered and implemented before procurement of similar equipment for follow-on projects.

3. The deficiencies encountered with the body loading equipment should also be corrected before procurement of similar equipment for follow-on projects.

4. While not a RAM problem, the unwinding of fuze ribbons does affect the overall efficiency and should be corrected. The following factors have an influence upon the ribbon's staying wound:

(1) Width of heat seal

(2) Rigidity of both the ribbon and tape stiffener

(3) Adjustment and speed of ribbon winders

5. Since the lead cup machines were not ready for testing at the time of the demonstration test, performance of these machines should be monitored and the data collected should be forwarded to ARRADCOM, ATTN: DRDAR-QAR, for evaluation.

6. The efficiency of the pack-out can be improved if parallel grenade stackers are used in place of the present series arrangement. This feature should be incorporated into similar follow-on LAP projects.

7. Since the data collection is a tedious process and a great deal of effort was spent putting the collected data into proper format, future data should be collected and recorded in accordance with format required for computerized RAM analysis (fig. II-I).

8. Results of this prove-out in terms of equipment performance should be used to generate RAM requirements and acceptance criteria for equipment to be procured for follow-on projects and also used as a basis for sizing similar facilities.

9. A RAM data base for equipment performance is currently being established and data from this prove-out will be included. Additional data on this line should be gathered periodically to expand the data base for the equipment making up this production line. A three day data-taking project should be planned by the Project Manager, PBM&E, to be implemented in August 1978 and December 1978 for RAM-growth tracking purposes.

APPENDIX A. DETAILED DISCUSSION OF RESULTS AND SYSTEM DESCRIPTION

I. INTRODUCTION

The following information provides the details of the RAM of the 155 mm M483A1 Automated Assembly and Pack-Out System and the production data analyses upon which the conclusions and recommendations are based.

II. DISCUSSION OF RESULTS

A. GENERAL

In order to facilitate analysis of RAM data collected during Prove-Out, the M483 LAP line at Kansas AAP was separated into four specific systems:

1. Adapter/Grenade Hardness Verification
2. Grenade Body Loading
3. Fuze Assembly
4. Final Assembly/Pack-Out

For each of these systems, with the exception of Final Assembly/Pack-Out, a set of failure codes was developed to streamline the RAM analysis. In addition to being necessary for performing an accurate RAM analysis, the failure code assignment was extremely useful in conducting the downtime and subsystem failure analyses aimed at pinpointing RAM problem areas.

In a preliminary review of the data it was discovered that certain failures which occurred exhibited repair times which were unusually long in comparison to repair times for other failures of the same code encountered for each specific system type. It was decided that a formal and consistent procedure would be used to exclude these outlying observations from further analysis. All applicable data were grouped according to failure code for each system. A data base consisting of RAM data recently gathered on similar equipment, in addition to the Kansas Prove-Out data, was used to compute a reasonable estimate of mean-time-to-repair (MTTR) and determine a frequency of failure for each failure code. A critical value based upon failure frequency was calculated for each failure code. The critical value for a particular failure code was based on the desire to remove observed times-to-repair which, under the assumed exponential repair distribution with mean equal to the estimated MTTR, had only a small probability of occurring. If an individual failure resulted in a time-to-repair greater than the critical value for its particular failure code, this failure

was removed from the data as a statistical outlier. These outlying observations were then eliminated from further consideration in analyzing the data. This process resulted in an analysis which more accurately measured equipment RAM performance by removing anomalies which are very likely operator/maintenance personnel dependent.

In the case of the Grenade Body Loading and Fuze Assembly systems, differences between machines of a given type in terms of availability and production capability were examined via statistical tests. The rationale and results of these tests are briefly discussed in the sections describing the RAM data analysis for each system provided below.

B. DATA ANALYSIS

1. ADAPTER/GRENADE HARDNESS VERIFICATION

a. General

This section summarizes the adapter/grenade body hardness verification equipment performance during the Prove-Out test. It included combined overall adapter/hardness verification system RAM characteristics and production performance, and a detailed downtime analysis to pinpoint frequent causes of failure. In order to facilitate the required analysis, a list of expected failure modes with associated codes was developed.

b. Failure Codes and Outlier Criteria

Table II-1 contains a list of the failure codes with their respective definitions. Table II-2 provides, for each failure code, its data base frequency of occurrence, its data base average repair time, and its critical value for determination of outliers. None of the 65 failures observed for hardness verification during Prove-Out required a repair time which exceeded these criteria so that no outliers were identified.

TABLE II-1 FAILURE CODES - HARDNESS VERIFICATION

FAILURE CODE	FAILURE MODE	DEFINITION
30	Miscellaneous problem	
31	Conveyor jam	Part jam occurs on conveyor
32	Body jam	Part jams in worm gear
33	Body overturned	Part falls on conveyor and causes jam
34	Body backup	Part jam occurs after test machine
35	Calibration drift	Good parts are rejected; machine requires recalibration
36	Tray up jam	Starwheel jams and causes machine to shut off
37	Traying	Electrical problem causes machine to shut off

TABLE II-2 HARDNESS VERIFICATION OUTLIER CRITERIA

CODE	FREQUENCY	MTTR	CRITICAL VALUE
30	3	5.3667	16.1000
31	84	1.3450	6.7252
32	65	0.8910	4.4552
33	17	0.7091	3.5453
34	1	0.2670	0.8010
35	6	4.8167	14.4500
36	2	0.3085	0.9255
37	2	14.9750	44.9250

c. RAM AND PRODUCTION PERFORMANCE

Combined overall and individual station RAM performance of the adapter/grenade hardness verification equipment is summarized in Table II-3. Each station consists of a conveyor, demagnetization coil, eddy current coil, and tray-up machine and is required to perform a relatively simple operation. One, therefore, would not expect many RAM problems to exist with this system and the results in Table II-3 bear this out. Of particular importance is the high overall system availability of .99 observed during Prove-Out.

The ability of the hardness verification equipment to meet production requirements is apparent when the production requirements of 5376 adapters per shift and 59136 grenades per shift are compared to the actual observed production quantities from the five shifts during which Prove-Out data was gathered. These quantities are provided in Table II-4. There was no evidence that the hardness verification equipment could not meet its design rate of 90 parts per minute. Situations in which the rate was observed to fall below this value were caused by grenades being manually fed to the conveyor rather than the actual capability of the equipment.

TABLE II-3 SUMMARY OF HARDNESS EQUIPMENT

MACHINE NO.	SCHED UPTIME	SCHED UPTIME	REPAIR TIME	NO. OF FAILURES	MTBF	MTTR	AVAIL
ADAPTER HARDNESS	1916.5	1911.2	5.3	14	136.5	0.38	0.997
BODY HARDNESS 1	2018.0	2016.1	1.9	4	504.0	0.48	0.999
BODY HARDNESS 2	1977.6	1960.6	17.0	15	130.7	1.13	0.991
BODY HARDNESS 3	1973.5	1915.4	58.1	32	59.9	1.82	0.970
OVERALL SYSTEM	7885.5	7803.2	82.3	65	120.0	1.27	0.990

TABLE II-4 ADAPTER/GRENADE HARDNESS VERIFICATION PRODUCTION DATA

	PRODUCTION QUANTITY				
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5
ADAPTER HARDNESS	29250	27400	26972	26050	30000
GRENADE HARDNESS	76800	76800	82944	79872	70656

DOWNTIME ANALYSIS

The data was grouped according to failure codes and analyzed to pinpoint equipment deficiencies which should be improved prior to future procurements of similar equipment. Table II-5 summarizes the downtime by failure code and machine and Table II-6 provides a summary of the downtime for each code. As evidenced by this data, this system does not appear to exhibit any significant RAM problems, being available 99% of the time.

TABLE II-5 DOWNTIME ANALYSIS OF HARDNESS EQUIPMENT

	CODE	FREQUENCY	TOTAL TIME	MTTR
ADAPTER HARDNESS	32	14	5.317	0.38
BODY HARDNESS NO. 1	-	1	0.317	0.317
	32	2	0.617	0.308
	35	1	1.000	1.000
BODY HARDNESS NO. 2	32	7	2.483	0.355
	33	4	1.617	0.404
	34	1	0.267	0.267
	35	1	12.000	12.000
	36	2	0.617	0.308
BODY HARDNESS NO. 3	32	21	13.283	0.633
	33	6	1.867	0.311
	35	3	13.000	4.333
	37	2	29.95	14.975

TABLE II-6 DOWNTIME SUMMARY OF HARDNESS EQUIPMENT

CODE	FREQUENCY	TOTAL DOWNTIME
-	1	0.317
32	44	21.70
33	10	3.484
34	1	0.267
35	5	26.000
36	2	0.617
37	2	29.950
TOTAL	65	82.335

2. GRENADE BODY LOADING SYSTEMS

a. GENERAL

Prove-Out test performance of KAAP body loading machines is summarized in this section. Included are combined overall estimates of body loading machine RAM characteristics and production rate, daily and overall estimates of RAM characteristics and production rates for individual machines, a detailed analysis of downtimes, a body loading machine subsystem RAM analysis, and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the body loading machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the grenade body loading systems are listed in Table II-7. The codes categorize common causes of body loading system failure and are listed under the corresponding subsystem with which they are associated.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR based on the available RAM data base and resultant critical values for each failure code are provided in Table II-8.

TABLE 11-7 FAILURE CODES - BODY LOADING

CODE	DESCRIPTION	DEFINITION
		UNTRAYING MACHINE
100	Miscellaneous Problem	Untraying
101	Tray Position	Tray improperly positioned to unload bodies
102	Tray Overrun	Tray hits limit switch and machine shuts off
103	Infeed Jam	Body jam during untraying
		CONE SYNTRON
200	Miscellaneous Problem	Cone conveyor
201	Feed Rate	Cone syntron feed rate requires adjustment
202	Cone Turned Over	Cone overturned in syntron
203	Cone Jam	Cone jams exiting syntron
		POWDER FEED SYSTEM
210	Hung Bucket	Powder bucket hangs up while feeding pellet press
211	No Powder	Conveyor brings pallet without powder bucket to pellet press
212	Hung Pallet	Conveyor system jams when called for powder
215	Miscellaneous Problem	Powder conveyor system
		ASSEMBLY MACHINE
300	Miscellaneous Problem	Assembly machine
301	Reject Part	Body will not fit on nest
302	Out Jam	Body and nest assembly jam on outfeed conveyor
303	Body Jam	Bodies jam entering assembly machine
304	Nest Jam	Nests jam entering assembly machine
305	No Nest	Nest not available for assembly
306	No body	Body not available for assembly
307	Limit Switch	Switch requires adjustment or replacement to keep machine operational
308	Lead Cup	Lead cup falls out of body and causes equipment hangup
		PELLET PRESS
400	Miscellaneous Problem	Pellet press
401	Part in Punch	Body sticks in punch after consolidation of powder
402	Upper Cam Jam	Upper punch fails to seat over body
403	High Punch	Punch fails to return to normal position
404	No Body	Body missing from nest
405	No Nest	Nest missing from body
406	Infeed Jam	Body assemblies jam entering press

TABLE II-7 CONTINUED

CODE	DESCRIPTION	DEFINITION
407	Out Jam	Body assemblies jam leaving press
408	High Charge	Maximum consolidation pressure - requires adjustment
409	Limit Switch	Switch requires adjustment or replacement to keep press operational
410	Powder Syntron	Powder hopper in press malfunctions, requires adjustment
411	No Powder	Body exits from press without powder
	DISASSEMBLY MACHINE	
500	Miscellaneous Problem	Disassembly machine
501	Low Part	Insufficient amount of powder in body
502	Nest Jam	Nest jam occurs after disassembly
503	Body Jam	Body jam occurs after disassembly
504	In Jam	Body assembly jams entering machine
505	Limit Switch	Switch requires adjustment or replacement to keep machine operational
506	No Nest	Body enters without nest - body removed
507	Starwheel Jam	Starwheels locks - requires adjustment
	CONE SWAGE	
600	Miscellaneous Problem	Cone swage
601	Cone in Punch	Cone sticks in punch during swaging
602	Upper Cam Jam	Upper punch fails to seat over body
603	Out Jam	Bodies jam on outfeed conveyor
604	Part in Punch	Swaged body sticks in punch
605	Cone Jam	Cone hangs up or overturns after entering swaging machine
606	Body Jam	Body jam occurs in swaging machine
607	High Punch	Punch Fails to retract
608	In Jam	Bodies jam prior to entering swaging machine
609	Limit Switch	Switch requires adjustment or replacement to keep machine operational
	GAGING MACHINE	
700	Miscellaneous Problem	Gaging machine
701	Reject Jam	Reject parts due to cone depth, jam leaving gaging machine
702	Out Jam	Acceptable parts jam on outfeed conveyor
703	Infeed Jam	Parts jam entering gaging machine
704	Limit Switch	Switch requires adjustment or replacement to keep machine operational

TABLE II-7 CONTINUED

CODE	DESCRIPTION	DEFINITION
		TRAYING MACHINE
800	Miscellaneous Problem	Traying
801	Tray Overrun	Tray hits limit switch and machine shuts off
802	Infeed Jam	Bodies jam entering tray
803	Tray Position	Tray improperly positioned to load bodies
		ULTRASONIC CLEANER
900	Miscellaneous Problem	Ultrasonic cleaner
901	Infeed Jam	Nests jam entering ultrasonic cleaner
902	Outfeed Jam	Nest caught in chain or sticks in outfeed track
903	Nest Shuttle	Shuttle fails to feed nests to ultrasonic cleaner

TABLE II-8 BODY LOADING SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
100	2	3.1415	9.4245
101	1	3.0670	9.2010
103	9	1.9426	5.8277
200	6	4.2417	12.7250
201	14	1.5846	4.7539
202	40	.5804	2.9020
203	85	.8814	4.4069
210	88	4.1462	20.7310
211	33	4.3409	21.7047
212	25	3.8527	19.2634
215	13	7.5243	22.5729
300	6	9.3112	27.9335
301	169	.7526	5.2679
302	13	1.4487	4.3461
303	21	1.5643	7.8214
304	36	1.1667	5.8335
305	5	.8766	2.6298
307	20	1.5184	7.5918
308	9	1.9130	5.7390
400	10	16.2050	48.6150
401	91	1.8403	9.2015
402	20	6.1267	30.6333
404	8	2.1063	6.3188
405	14	2.0083	6.0249
406	19	3.8947	19.4737
407	12	.7125	2.1375
408	34	3.1456	15.7279
409	9	4.4240	13.2720
410	7	4.4810	13.4430
411	13	1.4859	4.4578
500	3	5.7277	17.1830
501	2	.9250	2.7750
502	27	2.0056	10.0278
503	21	4.3484	21.7419
504	15	1.3345	4.0034
505	8	5.4063	16.2188
506	2	.7835	2.3505
507	9	3.6222	10.8667
600	6	4.2140	12.6420
601	33	7.4192	37.0959
602	9	10.8000	32.4000
603	2	.9335	2.8005
604	24	1.7958	8.9792
605	102	.9799	4.8995

TABLE II-8 BODY LOADING SYSTEM OUTLIER CRITERIS - CONTINUED

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
606	5	1.1966	3.5898
608	5	1.1300	3.3900
609	5	2.5666	7.6998
700	5	1.4134	4.2402
701	3	.9557	2.8670
702	2	1.4835	4.4505
703	7	1.3737	4.1211
704	1	.9170	2.7510
800	1	2.8670	8.6010
801	1	.6170	1.8510
802	5	.8400	2.5200
803	1	1.0000	3.0000
900	9	11.5241	34.5723
901	80	1.4150	7.0750
902	197	1.4761	10.3330
903	46	1.3279	6.6396

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 288 stoppages which were considered equipment failures, only 4 were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-9.

TABLE II-9 OUTLYING DATA FOR BODY LOADING SYSTEMS

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE CODE
111577	1125	7.467	1	901
111677	1400	35.000	1	402
111777	0817	67.233	3	900
111877	1136	7.233	3	901

In addition to these four outliers, 57 other machine stoppages originally scored as failures were deleted and not included in the following analyses. They included three (3) code 301 failures and fifty-four (54) code 902 failures. A code 301 failure is classified as a reject part because there is a defect in a particular body which prevents it from seating properly on the nest in the assembly machine. This in turn causes the machine to stop as a result of improper mating of the parts. The code 301 failures were deleted because it was considered inappropriate to penalize the equipment for failing when the problem is probably due to non-conforming parts (grenade bodies). The tight tolerances required for proper mating between nest and body would justify this conclusion. The code 902 stoppages reflected a recurring problem classified as an outfeed nest jam from the ultrasonic cleaner. The outfeed nest jam was caused by wet nests exiting from the ultrasonic cleaner. During the demonstrating test of body loader #3, it was noticed that the nests were not clean and contained traces of explosive as they exited from the ultrasonic cleaner. To correct this problem a new heater was installed in the freon bath on the third day of the test. The wet nest problem started at this time and continued to occur the following day of the RAM data collection. Since this problem was due to a problem of freon heating and did not occur prior to installation of a new heater, it was considered inappropriate to penalize the equipment in a manner which implied that more than one failure occurred. This problem was rectified after the completion of RAM data collection, and since it did not occur on similar body loading systems, it was decided to disregard the data generated by this problem in subsequent analyses.

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the two body loaders observed during the KAAP prove-out is provided as Table II-10. This table also includes a presentation of the combined data and estimates for the two machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for both body loaders are provided in Figures II-A and II-B respectively.

Table II-11 provides a summary of the daily RAM performance on each of the body loaders. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed during each day.

The null hypothesis, that the two body loading machines are equivalent in terms of anticipated availability, was not rejected based on a statistical test using the limited daily availability data provided. Because of the large amount of scheduled uptime on each day in comparison to the observed MTBF and MTTR estimates, it was assumed that the distribution of daily availability estimates could be approximated very well by a normal distribution. This served as the basis for statistical tests employed.

Graphic portrayal of the variability in daily availabilities for the two body loading systems is provided in Figure II-C.

Daily production from each body loader is summarized in Table II-12. It can be seen from this table that the production requirement of 59136 grenades/shift was achieved on three out of the four days during which data was gathered. This was the case because Body Loader #1 production was sufficient to compensate for Body Loader #3 on two out of the three days #3 failed to contribute its share. When the entire production observed over the four day period is combined, it can be seen that on the average the requirement of 59136 grenades/shift is easily exceeded.

The data summarized in Table II-12 reflects another important fact. During each of the eight machine-shifts, the observed rate (total grenades processed ÷ actual uptime) exceeded the design rate requirement of 90 parts per minute. These results amplify the importance of achieving satisfactory levels of machine availability, since when the machines are operating they are capable of performing well in excess of established production requirements.

Finally, Table II-12 reflects the fact that the body loaders consistently operate at a reject rate substantially less than 1 per cent. These results imply that the effects of reject rate on production capability may be considered negligible for the body loading systems.

TABLE II-10 BODY LOADING SYSTEM RAM & PRODUCTION SUMMARY

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTTR	AVAIL	NO. FAILURES	PRODUCTION QTY	REJECT QTY	OBSERVED RATE
1	1684.4	1480.9	203.5	8.92	1.23	.879	166	154051	759	104.0
3	1428.2	1210.2	218.0	10.26	1.85	.847	118	116020	860	95.9
COMBINED	3112.6	2691.1	421.5	9.48	1.48	.865	284	270071	1619	100.4

TABLE II-11 DAILY BODY LOADING MACHINE RAM RESULTS

	DAY #1				DAY #2				DAY #3				DAY #4			
MACHINE NO.	NO. FAILURES	MTBF	MTTR	AVAIL	NO. FAILURES	MTBF	MTTR	AVAIL	NO. FAILURES	MTBF	MTTR	AVAIL	NO. FAILURES	MTBF	MTTR	AVAIL
1	47	9.01	.96	.903	41	8.84	1.41	.862	40	8.74	1.29	.872	38	9.09	1.29	.876
3	26	17.03	1.08	.940	26	11.29	2.06	.846	37	5.70	1.72	.769	29	9.08	1.51	.783

TABLE II-12 BODY LOADING DAILY PRODUCTION

MACHINE NO.	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
1	45000	317	106.2	37550	141	103.6	36100	172	103.3	35401	129	102.5
3	44066	317	99.5	28287	195	96.4	19051	174	90.4	24616	174	93.5

The daily observed net rate of production for each body loader is provided in Table II-13. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the limited results in Table II-13 were used to compare the two body loading systems on the basis of net rate. Based on this statistical test the null hypothesis that the two systems are equivalent was not rejected at the .05 level of significance.

TABLE II-13 BODY LOADING SYSTEM NET RATES

MACHINE NO.	DAILY NET RATE (PARTS/MIN)				
	DAY #1	DAY #2	DAY #3	DAY #4	AVERAGE
1	95.3	89.0	89.6	89.5	91.0
3	92.9	80.9	68.8	72.7	80.6

e. DOWNTIME ANALYSIS

The RAM data gathered on the body loading systems during the Prove-Out test was analyzed by failure code on each machine separately and both machines combined. The primary purpose of this analysis was to highlight equipment RAM deficiencies so that improvements can be considered on present equipment and instituted for future procurements.

Tables II-14 and II-15 provide a breakdown of the failure data for each machine. A summary of downtimes, by type, is provided in Table II-16.

TABLE II-14 INDIVIDUAL BODY LOADING SYSTEM DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 1		166	203.533	1.226
100	UNTRAYING-MISC. PROBLEM	1	.650	.650
103	INFEED JAM	6	8.883	1.481
201	CONE SYNTRON FEED	1	2.317	2.317
202	CONE TURNED OVER	24	13.233	.551
203	CONE JAM	5	3.333	.667
210	HUNG BUCKET	6	2.933	.489
211	NO POWDER	8	19.350	2.419
212	HUNG PALLET	6	18.017	3.003
302	OUT JAM	1	.517	.517
303	BODY JAM	6	5.117	.853
304	NEST JAM	2	1.867	.933
307	LIMIT SWITCH	1	.317	.317
308	LEAD CUP	1	.467	.467
401	PART IN PUNCH	3	3.017	1.006
402	UPPER CAM JAM	2	4.517	2.258
406	INFEED JAM	2	3.517	1.758
407	OUT JAM	9	6.200	.689
408	POWDER CHARGE	1	2.000	2.000
409	LIMIT SWITCH	2	2.467	1.233
502	NEST JAM	5	7.550	1.510
503	BODY JAM	4	3.083	.771
504	INFEED JAM	5	5.567	1.113
507	STAR WHEEL JAM	1	7.683	7.683
600	CONE SWAGE-MISC. PROBLEM	1	.650	.650
601	CONE IN PUNCH	13	16.100	1.238
604	PART IN PUNCH	1	1.150	1.150
605	CONE JAM	19	24.067	1.267
606	BODY JAM	1	1.733	1.733
702	OUTJAM	1	.767	.767
803	TRAY POSITION	1	1.000	1.000
900	ULTRASONIC-MISC. PROBLEM	2	4.283	2.142
901	INFEED JAM	11	16.033	1.458
902	OUTFEED JAM	14	15.150	1.082

TABLE II-15 INDIVIDUAL BODY LOADING SYSTEM DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY	LOADING STATION 3	118	217.967	1.847
0	NON-CODED FAILURES	1	.400	.400
201	CONE SYNTRON FEED	2	1.917	.958
202	CONE TURNED OVER	15	9.600	.640
203	CONE JAM	9	9.017	1.002
210	HUNG BUCKET	8	8.083	1.010
212	HUNG PALLET	4	22.800	5.700
303	BODY JAM	1	.850	.850
304	NEST JAM	5	3.117	.623
401	PART IN PUNCH	11	16.100	1.464
402	UPPER CAM JAM	3	25.933	8.644
405	NO NEST	1	2.150	2.150
406	INFEED JAM	7	33.983	4.855
407	OUT JAM	1	1.100	1.100
501	LOW PART	1	.650	.650
504	INFEED JAM	3	4.400	1.467
506	NO NEST	1	1.017	1.017
603	OUTJAM	1	1.017	1.017
604	PART IN PUNCH	6	10.567	1.761
608	INFEED JAM	2	1.967	.983
609	LIMIT SWITCH	1	2.433	2.433
900	ULTRASONIC-MISC. PROBLEM	2	5.433	2.717
901	INFEED JAM	30	43.050	1.435
902	OUTFEED JAM	3	12.383	4.128

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
LOST AIR PRESSURE	.40

TABLE II-16 BODY LOADING SYSTEM DOWNTIME SUMMARY

CODE	FAILURE MODE	FREQUENCY	TIME
0	NON-CODED FAILURES	1	.400
100	UNTRAYING-MISC. PROBLEM	1	.650
103	INFEED JAM	6	8.883
201	CONE SYNTRON FEED	3	4.234
202	CONE TURNED OVER	39	22.833
203	CONE JAM	14	12.350
210	HUNG BUCKET	14	11.016
211	NO POWDER	8	19.350
212	HUNG PALLET	10	40.817
302	OUT JAM	1	.517
303	BODY JAM	7	5.967
304	NEST JAM	7	4.984
307	LIMIT SWITCH	1	.317
308	LEAD CUP	1	.467
401	PART IN PUNCH	14	19.117
402	UPPER CAM JAM	5	30.450
405	NO NEST	1	2.150
406	INFEED JAM	9	37.500
407	OUT JAM	10	7.300
408	POWDER CHARGE	1	2.000
409	LIMIT SWITCH	2	2.467
501	LOW PART	1	.650
502	NEST JAM	5	7.550
503	BODY JAM	4	3.083
504	INFEED JAM	8	9.967
506	NO NEST	1	1.017
507	STAR WHEEL JAM	1	7.683
600	CONE SWAGE-MISC. PROBLEM	1	.650
601	CONE IN PUNCH	13	16.000
603	OUT JAM	1	1.017
604	PART IN PUNCH	7	11.717
605	CONE JAM	19	24.067
606	BODY JAM	1	1.733
608	INFEED JAM	2	1.967
609	LIMIT SWITCH	1	2.433
702	OUT JAM	1	.767
803	TRAY POSITION	1	1.000
900	ULTRASONIC-MISC. PROBLEM	4	9.716
901	INFEED JAM	41	59.083
902	OUTFEED JAM	17	27.533

TOTAL FAILURES = 284
TOTAL DOWNTIME = 421.50

These results indicate four problem areas common to both body loaders. They are broken out separately in Table II-17.

TABLE II-17 BODY LOADING RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TOTAL DOWNTIME	% DOWNTIME
Cone Turned Over	202	39	22.8	5.4
Hung Pallet	212	10	40.8	9.7
Infeed Jam	901	41	59.1	14.0
Outfeed Jam	902	17	27.5	6.5
Above Combined	-	107	150.2	35.6
All Combined	-	284	421.5	100.0

On the surface it appears that these problems are relatively simple and should require only minor design modification to solve. As an example, the Code 901 Infeed Jam problem could be virtually eliminated by utilizing the Nest Shuttle feed to the ultrasonic cleaner employed on the Body loading systems at Lone Star AAP. If sufficient design modifications are made to eliminate the problems summarized in Table II-17, a resultant increase in average body loading system availability from 86.5% to as much as 91% could be anticipated, with consequent improvement in production capability.

f. SUBSYSTEM RAM ANALYSIS

The Grenade Body Loading System is comprised of ten separate machines or subsystems. They are:

(1) Untraying
(2) Cone Feed
(3) Powder Feed
(4) Body/Nest Assembly
(5) Pellet Press
(6) Disassembly
(7) Cone Swaging
(8) Gaging
(9) Traying
(10) Ultrasonic Cleaning

Table II-18 contains RAM data and estimates by subsystem for each body loading system individually. The subsystem availabilities in this table and in Table II-19 were calculated according to the following:

$$\text{SUBSYSTEM UPTIME} = \text{TSU} - \Sigma\ (\text{OTHER SUBSYSTEM DOWNTIMES})$$

where TSU = Total Scheduled Uptime for System

$$\text{SUBSYSTEM AVAILABILITY} = \frac{\text{SUBSYSTEM UPTIME} - \text{SUBSYSTEM DOWNTIME}}{\text{SUBSYSTEM UPTIME}}$$

A graphical depiction of daily variability in subsystem availabilities is provided in Figure II-D for selected subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to statistical tests of hypotheses to compare subsystems between body loading systems. No statistically significant differences were found. There is, therefore, no evidence to indicate that the overall RAM performance of a subsystem in one body loader differs from that of the similar subsystem in the other. As a result, the subsystem RAM data for body loading systems can be combined. The combined RAM data and estimates are provided in Table II-19. These results show that a total of 78% of the downtime observed on the body loading systems during Prove-Out is attributable to four subsystems: Powder Feed, Pellet Press, Cone Swage, and Ultrasonic Cleaner. The problems with the Ultrasonic Cleaner and Powder Feed subsystems have been addressed in the downtime analysis above. A substantial portion of the Pellet Press problem is associated with body assemblies jamming on entering the press (failure code 406). Cones hanging up or overturning after entering swaging machine (failure code 605) and swaged bodies sticking in punch (failure code 604) are the major problem with the Cone Swage subsystem. Significant improvement in body loading availability could be realized if these problems were reduced or eliminated.

TABLE II-18 BODY LOADING SUBSYSTEM RAM RESULTS BY SYSTEM

STATION/SUBSYSTEM	FREQ	DOWNTIME	TOTAL TIME	% DOWNTIME	MTTR	MTBF	AVAIL
BODY LOADING STATION 1	166	203.5	1684.4	100.0	1.23	8.92	.8792
UNTRAYING	7	9.5	1490.4	4.7	1.36	211.55	.9936
CONE FEED	30	18.9	1499.7	9.3	.63	49.36	.9874
POWDER FEED	20	40.3	1521.1	19.8	2.02	74.04	.9735
ASSEMBLY	11	8.3	1489.1	4.1	.75	134.62	.9944
PELLET PRESS	19	21.7	1502.5	10.7	1.14	77.94	.9855
DISASSEMBLY	15	23.9	1504.7	11.7	1.59	98.72	.9841
CONE SWAGE	35	43.7	1524.5	21.5	1.25	42.31	.9713
GAUGING	1	.8	1481.6	.4	.77	1480.82	.9995
TRAYING	2	1.0	1481.8	.5	1.00	1480.82	.9993
ULTRASONIC	27	35.5	1516.3	17.4	1.31	54.85	.9766
BODY LOADING STATION 3	118	218.0	1428.2	100.0	1.85	10.26	.8474
NON-CODED FAILURES	1	.4	1210.7	.2	.40	1210.27	.9997
CONE FEED	26	20.5	1230.8	9.4	.79	46.55	.9833
POWDER FEED	12	30.9	1241.2	14.2	2.57	100.86	.9751
ASSEMBLY	6	4.0	1214.2	1.8	.66	201.71	.9967
PELLET PRESS	23	79.3	1289.5	36.4	3.45	52.62	.9385
DISASSEMBLY	5	6.1	1216.3	2.8	1.21	242.05	.9950
CONE SWAGE	10	16.0	1226.3	7.3	1.60	121.03	.9870
ULTRASONIC	35	60.9	1271.1	27.9	1.74	34.58	.9521

TABLE II-19 BODY LOADING SUBSYSTEM COMBINED RAM RESULTS

STATION/SUBSYSTEM	FREQ	DOWNTIME	TOTAL TIME	% DOWNTIME	MTTR	MTBF	AVAIL
OVERALL STATION	284	421.5	3112.6	100.0	1.48	9.48	.8646
NON-CODED FAILURES	1	.4	2691.5	.1	.40	2691.08	.9999
UNTRAYING	7	9.5	2700.6	2.3	1.36	384.44	.9965
CONE FEED	56	39.4	2730.5	9.4	.70	48.06	.9856
POWDER FEED	32	71.2	2762.3	16.9	2.22	84.10	.9742
ASSEMBLY	17	12.3	2703.3	2.9	.72	158.30	.9955
PELLET PRESS	42	101.0	2792.1	24.0	2.40	64.07	.9638
DISASSEMBLY	20	30.0	2721.0	7.1	1.50	134.55	.9890
CONE SWAGE	45	59.7	2750.8	14.2	1.33	59.80	.9783
GAUGING	1	.8	2691.9	.2	.77	2691.08	.9997
TRAYING	1	1.0	2692.1	.2	1.00	2691.08	.9996
ULTRASONIC	62	96.3	2787.4	22.9	1.55	43.40	.9654

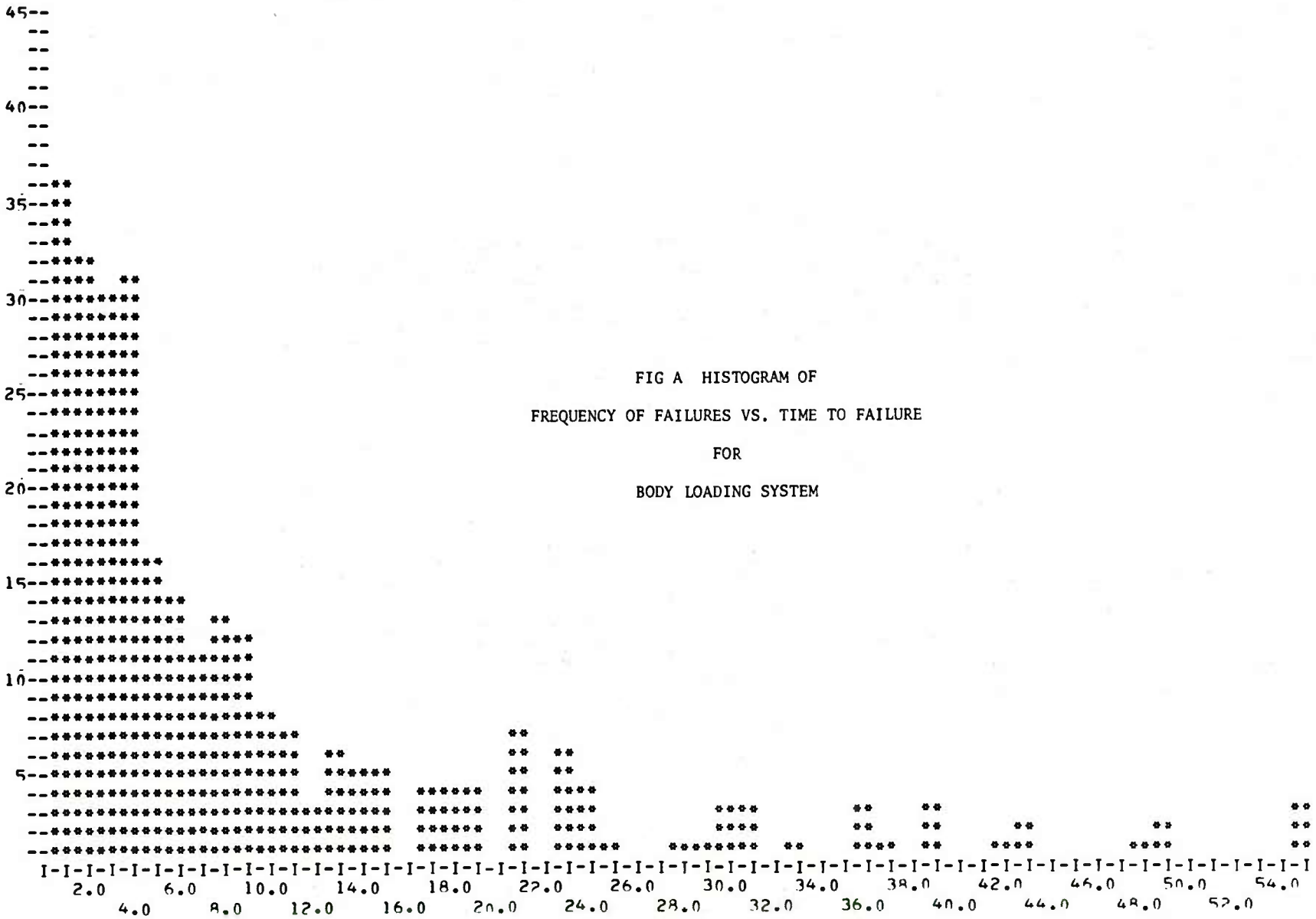


FIG A HISTOGRAM OF

FREQUENCY OF FAILURES VS. TIME TO FAILURE

FOR

BODY LOADING SYSTEM

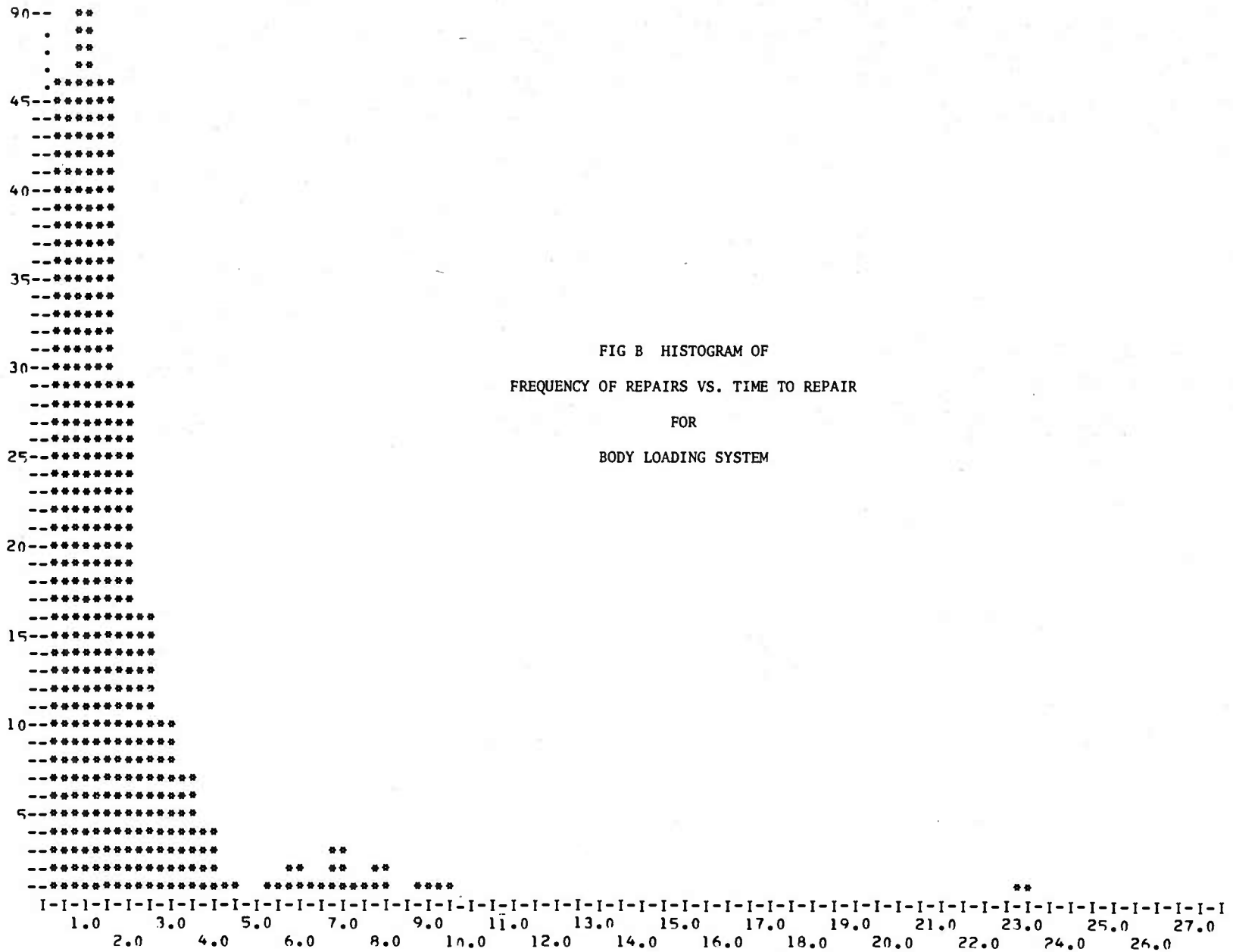


FIG B HISTOGRAM OF

FREQUENCY OF REPAIRS VS. TIME TO REPAIR

FOR

BODY LOADING SYSTEM

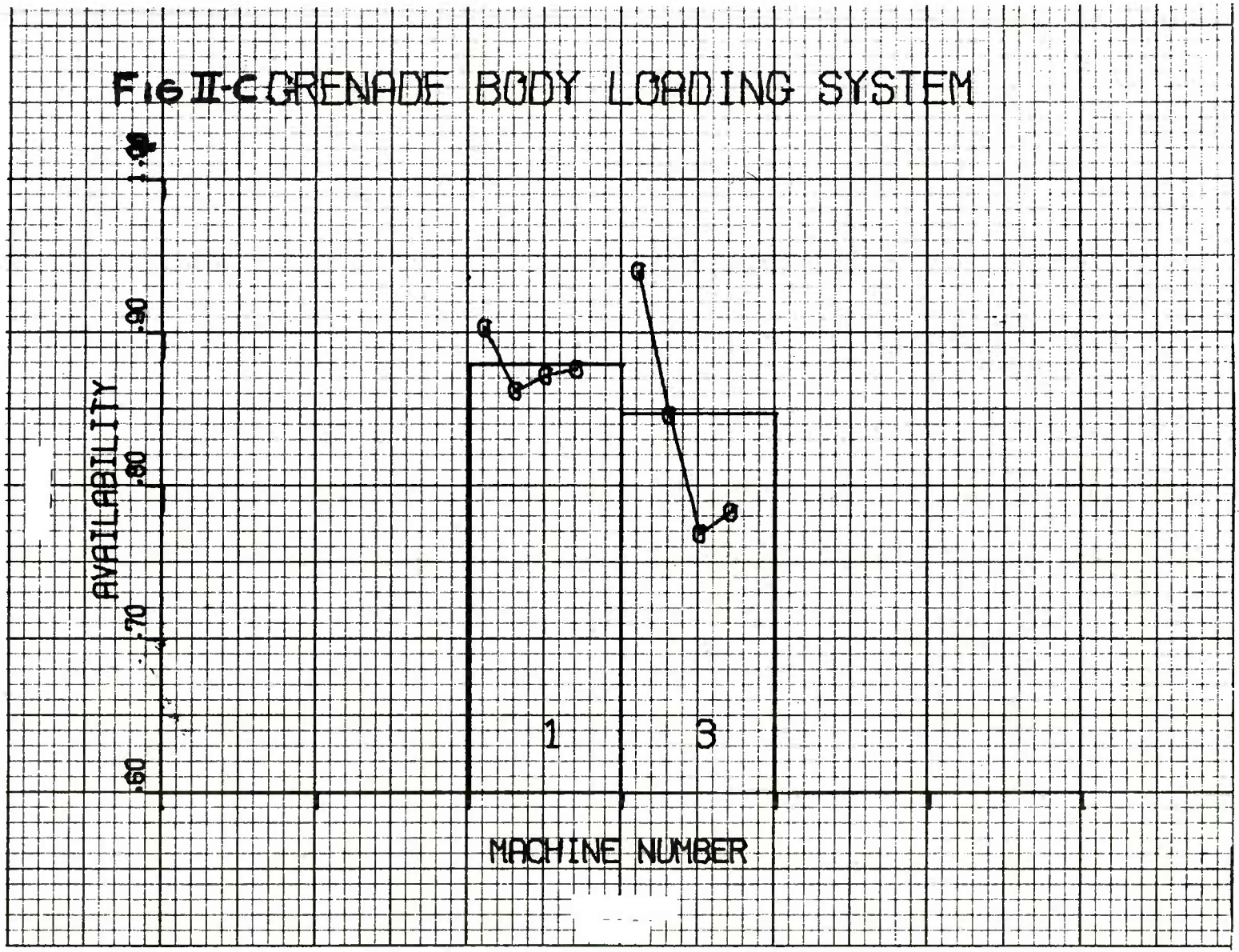


Fig II-C GRENADE BODY LOADING SYSTEM
AVAILABILITY
1.00
.90
.80
.70
.60
1
3
MACHINE NUMBER

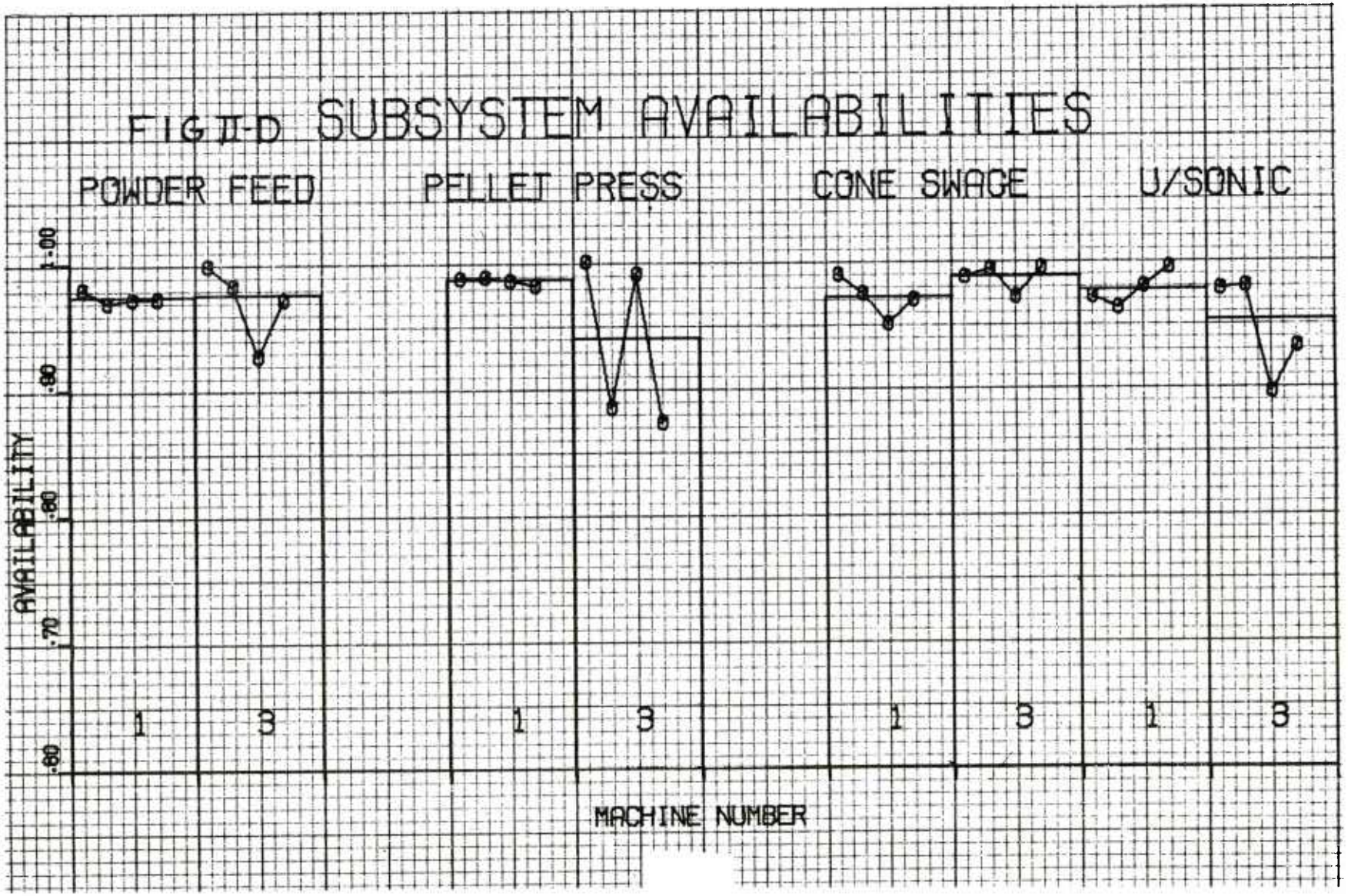


FIG II-D SUBSYSTEM AVAILABILITIES
POWDER FEED
PELLET PRESS
CONE SWAGE
U/SONIC
AVAILABILITY
1.00
.90
.80
.70
.60
1
3
1
3
1
3
1
3
MACHINE NUMBER

3. FUZE ASSEMBLY SYSTEMS

a. GENERAL

Fuze assembly equipment performance during the Prove-Out test is summarized in this section. Included are combined overall estimates of fuze assembly machine RAM characteristics and production rates for individual machines, a detailed analysis of downtimes, a fuze assembly machine subsystem RAM analysis, and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the fuze assembly machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the fuze assembly systems are listed in Table II-20. The codes categorize common causes of body loading system failure. The failure code 0, not defined in Table II-20, but which will be encountered in subsequent sections, refers to all non-coded failures, the frequencies of occurrence of which were not anticipated to be high when the codes were defined.

TABLE II-20 FAILURE CODES - FUZE ASSEMBLY

FAILURE CODE	FAILURE MODE	DEFINITION
01	No Body	Body placing station fails to place body on pallet.
02	No Fuze	Fuze placing station fails to place fuze on body.
03	Tape Fixture Placing	Tape fixture missing from pallet.
04	Eject Fail	Grenade eject station fails to place grenade on outfeed conveyor.
05	Body Present	Check to insure grenade still on pallet after winding of ribbon.
06	Tape Conveyor Low	Insufficient quantity of tape fixtures - conveyor shut off.
07	Body Conveyor Low	Insufficient quantity of bodies on infeed conveyor.
08	Tape Conveyor Off	Drive motor off.
09	Fuze Conveyor Off	Drive motor off.
10	Tape Fixture Removal Fail	2nd check for removal of tape fixture.
11	Winder Slide	Tape winder slide fails to return to normal position - requires adjustment.
12	Fuze Jam	Fuze jams in feed track or placement jaws fail to pick up fuze.
13	Air Jog	Manual operation to index machine.
14	Fallen Grenade	Overturned grenade on outfeed conveyor.
15	No Fuze After Stake	Fuze missing after staking operation.
16	Fuze Stake Malfunction	Station fails to stake fuze to grenade.
17	Grenade In Chain	Grenade falls off pallet before eject station.
18	Tape Fixture Retract	Tape fixture not removed from pallet after ribbon staking.
19	Body Conveyor Off	Drive motor off.
20	Tape Rivet Down	Tape staking head fails to return to normal position.
21	Tape Stripper Down	Tape stripper fails to return to normal position.
22	Fuze Stripper Down	Fuze stripper fails to return to normal position.
23	Electrical Interlock	No fuze, on body or eject station fails to remove grenade.
24	Body Orientation	Studs not properly aligned to accept fuze, or body not seated on pallet.
25	Fuze Lifting Device	Lifting device fails to place fuzes into feed station.
26	Fuze Conveyor Low	Insufficient quantity of fuzes in feeed system.
27	Grenade Jam	Grenade jam on outfeed conveyor.
28	Tray-Untray Malfunction	Jam at traying station.
29	Body Pallet Problem	Nest damaged and grenade will not seat properly.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR and frequency of failure based on the available RAM data base for fuze assembly equipment and resultant critical values for each failure code are provided in Table II-21. The critical values provided are the basis upon which outlying repair data is identified.

TABLE II-21 FUZE ASSEMBLY SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
1	570	.6093	4.2649
2	1524	.8214	5.7501
3	150	1.1059	5.5294
4	36	1.5176	7.5879
5	154	1.0096	7.0674
6	102	.4993	2.4967
7	92	.8092	4.0463
8	9	1.2593	3.7780
9	18	4.8852	24.4261
10	23	1.0957	5.4785
11	303	2.1117	14.7820
12	1291	1.4055	9.8385
13	15	1.7233	5.1700
14	268	.6086	4.2605
15	44	1.9655	9.8277
16	57	7.0465	35.2325
17	108	.9004	4.5022
18	796	.9499	6.6496
19	9	1.5259	4.5777
20	24	8.2569	41.2846
21	21	4.8150	24.0752
22	4	3.3000	9.9000
23	28	1.2470	6.2352
24	1145	.4402	3.0814
25	139	2.0781	10.3903
26	7	.5786	1.7357
27	232	.3325	2.3278
28	42	2.7591	13.7956
29	55	3.6500	18.2499

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 3213 stoppages which were considered equipment failures, only 29 repair times were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-22.

TABLE II-22 OUTLYING DATA FOR FUZE ASSEMBLY SYSTEM

DATE	TIME OF DAY	REPAIR TIME	MACH NO.	FAILURE CODE
121577	0913	15.200	1	3
121577	1051	20.250	1	11
121577	1138	22.000	1	11
121677	1420	24.000	1	11
121477	1518	4.133	2	24
112977	0827	12.100	5	3
113077	1034	7.400	5	18
113077	1048	6.800	5	18
113077	1320	9.283	5	3
113077	1510	16.050	5	17
120177	0809	5.833	5	3
120277	0930	30.400	5	29
120277	1245	57.583	5	16
120877	1516	5.217	4	24
120977	1257	3.717	4	24
120977	1443	6.100	4	24
112877	1053	67.000	6	18
112877	1452	41.400	6	21
113077	0850	3.633	6	24
113077	1059	7.933	6	2
120177	1506	15.000	6	12
111677	1232	4.283	8	14
111677	1425	23.433	8	11
111777	0907	6.000	8	24
111877	0859	4.667	8	1
111677	0858	14.800	9	12
111677	1255	13.400	9	12
111777	0823	3.250	9	24
111877	1031	38.683	9	25

In addition to the outliers listed in Table II-22, 8 other stoppages originally scored as failures were deleted. Each of them was a non-coded (code 0) failure. These stoppages involved failures of machine components known to have relatively high reliability in terms of mean-time-between-failure. Inclusion of this data in subsequent analyses would have resulted in unrealistically low estimates of total RAM performance for the fuze assembly machines. The data relating to these downtimes is provided in Table II-22A.

TABLE II-22A FURTHER DATA DELETIONS FOR FUZE ASSEMBLY SYSTEM

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE DESCRIPTION
120977	0928	32.00	3	OVERLOAD MAIN DRIVE MOTOR
120977	1015	70.00	3	OVERLOAD MAIN DRIVE MOTOR
120577	0818	31.07	4	OVERLOAD TAPE FIXTURE CONVEYOR
120177	1338	19.00	5	BROKEN TAPE FIXTURE AND NEST
111777	1252	68.00	9	REPAIR AND REPLACE CLUTCH
111777	1415	105.00	9	REPAIR AND REPLACE CLUTCH
111777	1615	67.00	9	BROKEN AIR LINES - CLUTCH

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the eight fuze assembly systems observed during the KAAP Prove-Out is provided in Table II-23. This table also includes a presentation of the combined data and estimates for the eight machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for all fuze assembly machines are provided in Figures II-E and II-F, respectively. Table II-24 provides a summary of the daily RAM performance for each of the fuze assembly machines. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed during each day.

The null hypothesis, that all eight fuze assembly machines are equivalent in terms of anticipated availability, was rejected using a one-way analysis of variance at the .05 level of significance. As with the body loaders, daily availability estimates were assumed to follow a normal distribution. A standard statistical multiple comparison test was then applied to the average daily availabilities of the eight machines to characterize this difference.

The results of this test indicated that, while seven of the eight machines were statistically equivalent in terms of availability, the extremely good RAM performance of fuze assembly machine #2, in comparison, was enough to cause rejection of the null hypothesis. Graphical evidence of this conclusion is provided in Figure II-G.

TABLE II-23 FUZE ASSEMBLY MACHINE DATA

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTTR	AVAIL	NO. FAILURE	PRODUCTION QTY	REJECT QTY	OBSERVED RATE (PPM)
1	1953.5	1610.8	342.7	3.59	0.76	0.824	448	40128	290	24.9
2	1969.3	1833.9	135.4	7.28	0.54	0.931	252	55417	42	30.2
3	1772.0	1526.7	245.3	6.11	0.98	0.862	250	43250	380	28.3
4	1746.4	1276.4	470.0	1.41	0.52	0.731	908	32071	111	25.1
5	1806.1	1443.7	362.4	3.21	0.81	0.799	450	40943	297	28.4
6	1886.1	1604.9	281.2	3.47	0.61	0.851	462	43538	336	27.1
8	1050.9	834.7	216.2	5.06	1.31	0.794	165	23211	95	27.8
9	1189.7	1001.	188.71	4.15	0.78	0.841	241	27303	154	27.3
SUMMARY	13374.0	11132.1	2241.9	3.50	0.71	0.832	3176	305861	1705	27.5

TABLE II-24 DAILY FUZE ASSEMBLY MACHINE RAM RESULTS

MACHINE NO	DAY #1				DAY #2				DAY #3				DAY #4				DAY #5			
	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL
1	69	4.78	1.30	.785	114	3.28	.27	.925	117	3.15	.60	.840	84	3.21	1.10	.745	64	4.19	.93	.819
2	44	8.75	.60	.936	44	8.44	.86	.907	64	5.94	.46	.928	63	6.15	.37	.944	37	8.38	.50	.944
3	50	6.92	.71	.907	68	4.45	1.14	.796	46	7.02	1.49	.825	58	5.34	.66	.890	28	8.76	.91	.901
4	163	1.62	.54	.750	102	1.78	.44	.803	209	1.34	.58	.700	237	1.19	.51	.701	197	1.37	.49	.735
5	76	4.99	.69	.878	63	5.64	.53	.914	106	2.30	.76	.751	128	2.24	.79	.739	77	2.31	1.22	.653
6	45	5.46	1.58	.775	34	12.22	.61	.952	127	2.49	.59	.808	159	2.06	.41	.833	97	3.10	.51	.860
8	56	4.66	1.48	.758	75	4.15	1.21	.774	34	7.72	1.24	.862	-	-	-	-	-	-	-	-
9	72	4.71	.91	.839	84	3.06	.70	.814	50	3.69	.94	.798	35	6.28	.50	.926	-	-	-	-

TABLE II-25
FUZE ASSEMBLY DAILY PRODUCTION

	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5		
MACHINE NO.	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
1	8409	20	25.5	9860	15	26.3	8910	16	24.2	6101	143	22.6	6848	96	25.5
2	11635	5	30.2	11169	8	30.1	11398	14	30.0	11511	6	29.7	9704	9	31.3
3	10666	64	30.8	7592	57	25.1	8869	89	27.5	9235	90	29.8	6888	80	28.1
4	7027	22	26.6	4063	22	22.4	6908	27	24.7	7164	14	25.5	6909	26	25.7
5	10401	51	27.4	10902	43	30.7	6906	23	28.3	8672	90	30.2	4062	90	22.9
6	6599	38	26.9	11653	98	28.0	7815	64	24.7	9223	64	28.2	8248	72	27.4
8	7043	26	27.0	7116	36	22.8	9052	22	34.5	-	-	-	-	-	-
9	9052	33	26.7	6806	46	26.4	5230	66	28.4	6215	9	28.3	-	-	-

Daily production from each fuze assembly system is summarized in Table II-25. It should be noted that the RAM and production data for the fuze assembly system was gathered over a four week period, observing two machines per week. As a result comparison of the observed production capability to required output per shift involves consideration of the average daily output of each machine as representative of its production capability. These averages are provided in Table II-25A.

TABLE II-25A AVERAGE DAILY OUTPUT OF FUZE ASSEMBLY MACHINES

MACHINE NO.	1	2	3	4	5	6	8	9
AVG. PRODUCTION	8026	11083	8650	6414	8189	8708	7737	6826

If the averages in this table are summed, a total expected production capability, for the eight fuze assembly machines, of 65633 grenades/shift results. The requirement of 59136 grenades/shift is easily exceeded.

In addition, Table II-25 provides the daily observed rates for each of the fuze assembly machines. On only 8 of the 37 machine-days observed was the design rate of 30 parts per minute met or exceeded. Only machine #2 consistently functioned at the design rate. The averaged observed rate, measured by the ratio of total grenades processed to total actual uptime for all eight machines, was found to be 27.5 grenades/minute.

Finally, Table II-25 reflects the fact that the fuze assembly machines consistently operate at a reject rate of less than 2%. On only 2 of the 37 machine-days observed was a reject rate of 2% slightly exceeded. The reject rate averaged over all 37 machine-days was 0.56%.

The daily observed net rate of production for each fuze assembly machine is provided in Table II-26. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the results in Table II-26 were used to compare the fuze assembly systems on the basis of net rate. Based on a one-way analysis of variance, the null hypothesis that the eight systems are equivalent was rejected at the .05 level of significance. Further examination of this difference using a multiple comparison test on the machine average net rates verified that 6 of the 8 machines were equivalent in terms of net rate, while the major contribution to statistical significance was the extreme difference in performance between machines #2 and #4. Machine #2 performed well in every respect, whereas #4 reflected both low availability and low observed rate.

TABLE II-26 FUZE ASSEMBLY MACHINE NET RATE

MACHINE NO.	NET RATE (PARTS/MIN)					
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5	AVE
1	20.0	24.3	20.3	16.4	20.6	20.4
2	28.3	27.3	27.8	28.0	29.5	28.1
3	27.8	19.8	22.4	26.3	25.1	24.2
4	19.9	17.9	17.2	17.8	18.8	18.3
5	24.0	27.9	21.2	22.1	14.6	22.5
6	20.7	26.5	19.8	23.4	23.4	22.9
8	20.4	17.6	29.6	-	-	22.0
9	22.3	21.4	22.4	26.1	-	22.8

e. DOWNTIME ANALYSIS

The fuze assembly Prove-Out data was analyzed by failure codes for each machine and summarized for all machines to pinpoint equipment deficiencies so that improvements can be considered on present equipment and instituted for future procurements. Tables II-27A to II-27H contain a breakdown of the failure data for each machine. The combined data by failure code appears in Table II-28.

TABLE II-27A INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 1	448	342.750	.765
0	NON-CODED FAILURES	4	26.133	6.533
2	NO FUZE	61	22.600	.370
3	TAPE FIXTURE PLACING	24	19.533	.814
4	EJECT FAIL	5	3.900	.780
11	WINDER SLIDE OUT	11	28.433	2.585
12	FUZE JAM	123	121.183	.985
18	TAPE FIXTURE RETRACT	19	14.467	.761
24	BODY ORIENTATION	156	38.667	.248
25	FUZE LIFTING DEVICE	1	.117	.117
27	GRENADE JAM	26	8.783	.338
28	TRAY-UNTRAY MALFUNCTION	8	14.433	1.804
29	BODY PALLET PROBLEM	10	44.500	4.450

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
MAKE ADJUSTMENTS	7.00
JAM GREN PICK UP STA	.75
REPLACE SPRING ON TAPE	9.58
MAKE ADJUSTMENTS TO CLUTCH	8.80

TABLE II-27B INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE TABLE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 2	252	135.417	.537
0	NON-CODED FAILURES	3	.667	.222
2	NO FUZE	16	5.333	.333
3	TAPE FIXTURE PLACING	6	1.967	.328
4	EJECT FAIL	2	4.633	2.317
7	BODY CONVEYOR LOW	5	3.600	.720
11	WINDER SLIDE OUT	5	19.450	3.890
12	FUZE JAM	49	24.650	.503
15	NO FUZE AFTER STAKE	2	5.400	2.700
16	FUZE STAKE MALFUNCTION	1	1.333	1.333
17	GRENADE IN CHAIN	7	3.700	.529
18	TAPE FIXTURE RETRACT	6	1.050	.175
23	ELECTRICAL INTERLOCK	1	.500	.500
24	BODY ORIENTATION	95	22.317	.235
25	FUZE LIFTING DEVICE	4	6.650	1.663
27	GRENADE JAM	39	13.533	.347
28	TRAY-UNTRAY MALFUNCTION	5	2.317	.463
29	BODY PALLET PROBLEM	6	18.317	3.053

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
TAPE CAUGHT ON BODY EJECT	.28
BODY DOWN ON INFEED	.25
FALSE LIGHT	.13

TABLE II-27C INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 3		250	245.267	.981
0	NON-CODED FAILURES	6	12.933	2.156
2	NO FUZE	25	14.867	.595
3	TAPE FIXTURE PLACING	6	5.433	.906
4	EJECT FAIL	1	1.217	1.217
5	BODY PRESENT	2	1.250	.625
7	BODY CONVEYOR LOW	1	.267	.267
9	FUZE CONVEYOR OFF	1	1.467	1.467
11	WINDER SLIDE OUT	7	10.583	1.512
12	FUZE JAM	103	82.817	.804
15	NO FUZE AFTER STAKE	1	.717	.717
16	FUZE STAKE MALFUNCTION	4	40.000	10.000
18	TAPE FIXTURE RETRACT	13	10.800	.831
21	TAPE STRIPPER DOWN	3	6.367	2.122
24	BODY ORIENTATION	37	13.900	.376
25	FUZE LIFTING DEVICE	3	3.333	1.111
27	GRENADE JAM	26	12.917	.497
28	TRAY-UNTRAY MALFUNCTION	10	20.850	2.085
29	BODY PALLET PROBLEM	1	5.550	5.550

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
TIGHTEN CNVR INFEED BELT	3.55
FUZE KNOCKED OFF GRENADE	2.18
LUBRICATE SHOT PIN	2.00
FUZE JARRED OFF BODY	1.27
GRENADE FALLEN ON FLOOR	.47
ADJUST MACHINE TIMING	3.47

TABLE II-27D INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 4	908	470.000	.518
0	NON-CODED FAILURES	9	12.667	1.407
2	NO FUZE	50	33.667	.673
3	TAPE FIXTURE PLACING	4	2.483	.621
4	EJECT FAIL	1	1.650	1.650
5	BODY PRESENT	8	4.267	.533
11	WINDER SLIDE OUT	33	20.483	.621
12	FUZE JAM	223	127.267	.571
15	NO FUZE AFTER STAKE	1	.817	.817
16	FUZE STAKE MALFUNCTION	15	61.800	4.120
18	TAPE FIXTURE RETRACT	49	33.483	.683
24	BODY ORIENTATION	387	93.867	.243
25	FUZE LIFTING DEVICE	14	16.350	1.168
27	GRENADE JAM	102	28.133	.276
28	TRAY-UNTRAY MALFUNCTION	9	26.383	2.931
29	BODY PALLET PROBLEM	3	6.683	2.228

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
CONVEYOR CHAIN OUT OF LINE	1.18
CHANGE WIRE SHIELDS	2.18
FUZE KNOCKED OFF BODY BY GAGE	2.18
FUZE KNOCKED OFF BY GAGE	.27
FUZE KMOCKED OFF BY GAGE	1.07
MISC PROBLEM	2.18
CLUTCH LOCKED UP	2.32
FUZE KNOCKED OFF BY GAGE	1.07
FUZE KNOCKED OFF BY GAGE	.22

TABLE II-27E INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 5	450	362.433	.805
0	NON-CODED FAILURES	11	12.567	1.142
1	NO BODY	1	.800	.800
2	NO FUZE	25	19.450	.778
3	TAPE FIXTURE PLACING	4	3.617	.904
4	EJECT FAIL	15	17.000	1.133
5	BODY PRESENT	2	.867	.433
11	WINDER SLIDE OUT	36	60.100	1.669
12	FUZE JAM	120	63.417	.528
16	FUZE STAKE MALFUNCTION	10	43.500	4.350
17	GRENADE IN CHAIN	5	3.800	.760
18	TAPE FIXTURE RETRACT	56	20.417	.365
21	TAPE STRIPPER DOWN	2	4.300	2.150
23	ELECTRICAL INTERLOCK	2	4.283	2.142
24	BODY ORIENTATION	108	41.917	.388
25	FUZE LIFTING DEVICE	28	22.933	.819
27	GRENADE JAM	16	4.500	.281
28	TRAY-UNTRAY MALFUNCTION	1	.400	.400
29	BODY PALLET PROBLEM	8	38.567	4.821

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
BROKEN SPRING ON MAGNET	5.28
SAFETY SWITCH ON	.50
CHAIN OUT OF TIME ADJUST	.58
ADJUST PRESSURE ON HYDRAULIC PUMP	.50
RESET SWITCH + REPLACE BODY	.43
CONV CHAIN OUT OF LINE	.75
CONV CHAIN OUT OF LINE	1.83
ALL STA BACK - RESET SWITCH	.53
FUZE KNOCKED OFF BODY	.28
BODY CAUGHT ON WINDER	1.58
FUZE KNOCKED OFF BODY	.28

TABLE II-27F INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 6	462	281.250	.609
0	NON-CODED FAILURES	2	5.967	2.983
2	NO FUZE	78	39.167	.502
3	TAPE FIXTURE PLACING	5	1.867	.373
8	TAPE CONVEYOR OFF	1	.400	.400
11	WINDER SLIDE OUT	21	42.333	2.016
12	FUZE JAM	121	96.700	.799
13	AIR JOG	2	5.517	2.758
14	FALLEN GRENADE	2	.417	.208
16	FUZE STAKE MALFUNCTION	1	1.767	1.767
17	GRENADE IN CHAIN	1	.450	.450
18	TAPE FIXTURE RETRACT	18	9.533	.530
21	TAPE STRIPPER DOWN	2	2.383	1.192
24	BODY ORIENTATION	199	65.050	.327
25	FUZE LIFTING DEVICE	4	7.250	1.813
27	GRENADE JAM	4	1.883	.471
28	TRAY-UNTRAY MALFUNCTION	1	.567	.567

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
ADJUST MACHINE TIMING	4.63
TIGHTEN CONV BELT	1.33

TABLE II-27G INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE	ASSEMBLY STATION 8	165	216.217	1.310
0	NON-CODED FAILURES	2	4.750	2.375
1	NO BODY	1	.933	.933
2	NO FUZE	22	23.150	1.052
3	TAPE FIXTURE PLACING	23	12.167	.529
6	TAPE CONVEYOR LOW	3	1.617	.539
11	WINDER SLIDE OUT	18	52.767	2.931
12	FUZE JAM	48	46.867	.976
14	FALLEN GRENADE	3	1.400	.467
15	NO FUZE AFTER STAKE	3	1.183	.394
16	FUZE STAKE MALFUNCTION	1	1.750	1.750
18	TAPE FIXTURE RETRACT	13	5.550	.427
20	TAPE RIVET DOWN	1	8.883	8.883
21	TAPE STRIPPER DOWN	7	23.250	3.321
24	BODY ORIENTATION	11	2.667	.242
25	FUZE LIFTING DEVICE	2	4.133	2.067
27	GRENADE JAM	2	1.417	.708
29	BODY PALLET PROBLEM	5	23.733	4.747

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
MAIN DRIVE SHAFT JAM	1.20
SET TIMING ON MACHINE	3.55

TABLE II-27H INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE		FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 9		241	188.717	.783
0	NON-CODED FAILURES	1	8.750	8.750
2	NO FUZE	22	9.950	.452
3	TAPE FIXTURE PLACING	2	1.033	.517
5	BODY PRESENT	7	3.950	.564
11	WINDER SLIDE OUT	11	30.367	2.761
12	FUZE JAM	111	67.950	.612
13	AIR JOG	1	.200	.200
14	FALLEN GRENADE	1	.317	.317
15	NO FUZE AFTER STAKE	1	.333	.333
16	FUZE STAKE MALFUNCTION	1	.333	.333
17	GRENADE IN CHAIN	2	.667	.333
18	TAPE FIXTURE RETRACT	19	16.500	.868
21	TAPE STRIPPER DOWN	4	10.883	2.721
24	BODY ORIENTATION	30	12.283	.409
25	FUZE LIFTING DEVICE	5	4.717	.943
27	GRENADE JAM	16	5.250	.328
28	TRAY-UNTRAY MALFUNCTION	3	6.100	2.033
29	BODY PALLET PROBLEM	4	9.133	2.283

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
ADJUST MACHINE TIMING	8.75

TABLE II-28 FUZE ASSEMBLY DOWNTIME SUMMARY

CODE	FAILURE MODE	FREQUENCY	TIME
0	NON-CODED FAILURES	38	84.434
1	NO BODY	2	1.733
2	NO FUZE	299	168.184
3	TAPE FIXTURE PLACING	74	48.100
4	EJECT FAIL	24	28.400
5	BODY PRESENT	19	10.334
6	TAPE CONVEYOR LOW	3	1.617
7	BODY CONVEYOR LOW	6	3.867
8	TAPE CONVEYOR OFF	1	.400
9	FUZE CONVEYOR OFF	1	1.467
11	WINDER SLIDE OUT	142	264.516
12	FUZE JAM	898	630.851
13	AIR JOG	3	5.717
14	FALLEN GRENADE	6	2.134
15	NO FUZE AFTER STAKE	8	8.450
16	FUZE STAKE MALFUNCTION	33	150.483
17	GRENADE IN CHAIN	15	8.617
18	TAPE FIXTURE RETRACT	193	111.800
20	TAPE RIVET DOWN	1	8.883
21	TAPE STRIPPER DOWN	18	47.183
23	ELECTRICAL INTERLOCK	3	4.783
24	BODY ORIENTATION	1023	290.668
25	FUZE LIFTING DEVICE	61	65.416
27	GRENADE JAM	231	76.416
28	TRAY-UNTRAY MALFUNCTION	37	71.050
29	BODY PALLET PROBLEM	37	146.483

TOTAL FAILURES = 3176
TOTAL DOWNTIME = 2242.0

There are five major problem areas highlighted as a result of this analysis which account for 68.4% of the total downtime. They are broken out separately in Table II-29.

TABLE II-29 FUZE ASSEMBLY RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TIME	% DOWNTIME
NO FUZE	02	299	168.2	7.5
FUZE FEED	9,12,25	960	697.8	31.1
RIBBON WINDER	11	142	264.5	11.8
TAPE FIXTURE	18	193	111.8	5.0
BODY ORIENTATION	24	1023	290.7	13.0
SUBTOTAL	-	2616	1533.0	68.4
OTHER CAUSES	-	560	7709.0	31.6
TOTAL	-	3176	2242.0	100.0

In addition to representing 68% of the downtime, these areas also represent approximately 82% of the total number of failures. The biggest single problem with the fuze assembly machines (38.7%) is feeding the fuze to the placing station which, in turn, rotates the fuze 90^{o} and places it on the grenade body. Improvement in this area would result in a significant increase in the availability of these machines. Investigation of a possible redesign of the fuze feed and placement system should be performed prior to additional procurement of this type of equipment.

f. SUBSYSTEM RAM ANALYSIS

The Fuze Assembly System is comprised of three separate machines or subsystems. They are:

(1) Fuze Inspection and Feed

(2) Tray-Untray

(3) Fuze/Grenade/Tape Assembly

Table II-30 contains RAM data and estimates by subsystem for each fuze assembly machine individually. The subsystem availabilities in this table and in Table II-31 were calculated in the same way as those for the body loaders in section II.2.f. A graphical depiction of daily variability in subsystem availabilities is provided in Figures II-H and II-I for the Fuze-Feed and Fuze-Tape subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to one-way analyses of variance to compare subsystems between fuze assembly machines.

TABLE II-30 SUBSYSTEM AVAILABILITY

MACHINE/SUBSYSTEM	NO. FAILURES	TOTAL TIME	DOWNTIME	AVAIL	MTTR	MTBF
FUZE FEED	128	1732.0	121.3	0.930	0.98	12.99
1 TRAY UNTRAY	8	1625.2	14.4	0.991	1.80	201.3
FUZE TAPE	319	1817.7	207.0	0.886	0.66	5.10
FUZE FEED	53	1865.2	31.3	0.983	0.59	34.6
2 TRAY UNTRAY	5	1836.2	2.3	0.999	0.46	366.8
FUZE TAPE	194	1935.6	101.8	0.947	0.53	9.45
FUZE FEED	107	1614.4	87.6	0.946	0.82	14.27
3 TRAY UNTRAY	10	1547.6	20.85	0.987	2.09	152.7
FUZE TAPE	133	1663.6	136.8	0.918	1.03	11.48
FUZE FEED	237	1420.0	143.6	0.899	0.61	5.39
4 TRAY UNTRAY	9	1302.8	26.4	0.980	2.93	141.8
FUZE TAPE	662	1576.4	300.0	0.810	0.45	1.93
FUZE FEED	148	1530.0	86.35	0.944	0.58	9.75
5 TRAY UNTRAY	1	1444.0	0.47	0.999	0.40	1443.6
FUZE TAPE	301	1719.4	275.7	0.840	0.92	4.80
FUZE FEED	125	1708.8	103.95	0.939	0.83	12.84
6 TRAY UNTRAY	1	1605.36	0.56	0.999	0.56	1604.8
FUZE TAPE	336	1781.5	176.7	0.900	0.53	4.78
FUZE FEED	50	885.6	51.0	0.942	1.02	16.69
8 TRAY UNTRAY	0	-	-	1.000	-	-
FUZE TAPE	115	999.8	165.2	0.835	1.44	7.26
FUZE FEED	116	1073.6	72.6	0.932	0.63	8.63
9 TRAY UNTRAY	3	1007.1	6.1	0.994	2.03	333.7
FUZE TAPE	122	1110.9	109.9	0.901	0.90	8.21

Statistically significant differences were found for the Fuze-Feed and Fuze-Tape subsystems. Subsequent multiple comparison tests on the subsystem mean availabilities indicated that the difference in the Fuze-Feed and systems was caused by the extremely good performance of this subsystem on machine #2. Fuze-Feed subsystems on the other seven machines were found to be equivalent. The difference in the Fuze-Tape subsystems was found to be a result of the subsystems from each machine dividing equally into two groups, four with availabilities near .8 and four near .9. As a result of these findings, it is reasonable to combine, as a measure of average performance, the subsystem RAM data for all eight fuze assembly machines. The combined data and estimates are provided in Table II-31.

TABLE II-31 FUZE ASSEMBLY SUBSYSTEM COMBINED RAM RESULTS

STATION/SUBSYSTEM	FREQ	DOWNTIME	%DOWNTIME	MTBF	MTTR	AVAIL
FUZE FEED SYSTEM	960	697.8	31.1	11.60	.73	.9410
TRAY-UNTRAY	37	71.0	3.2	300.86	1.92	.9937
FUZE-TAPE ASSEMBLY	2179	1473.2	65.7	5.11	.68	.8831

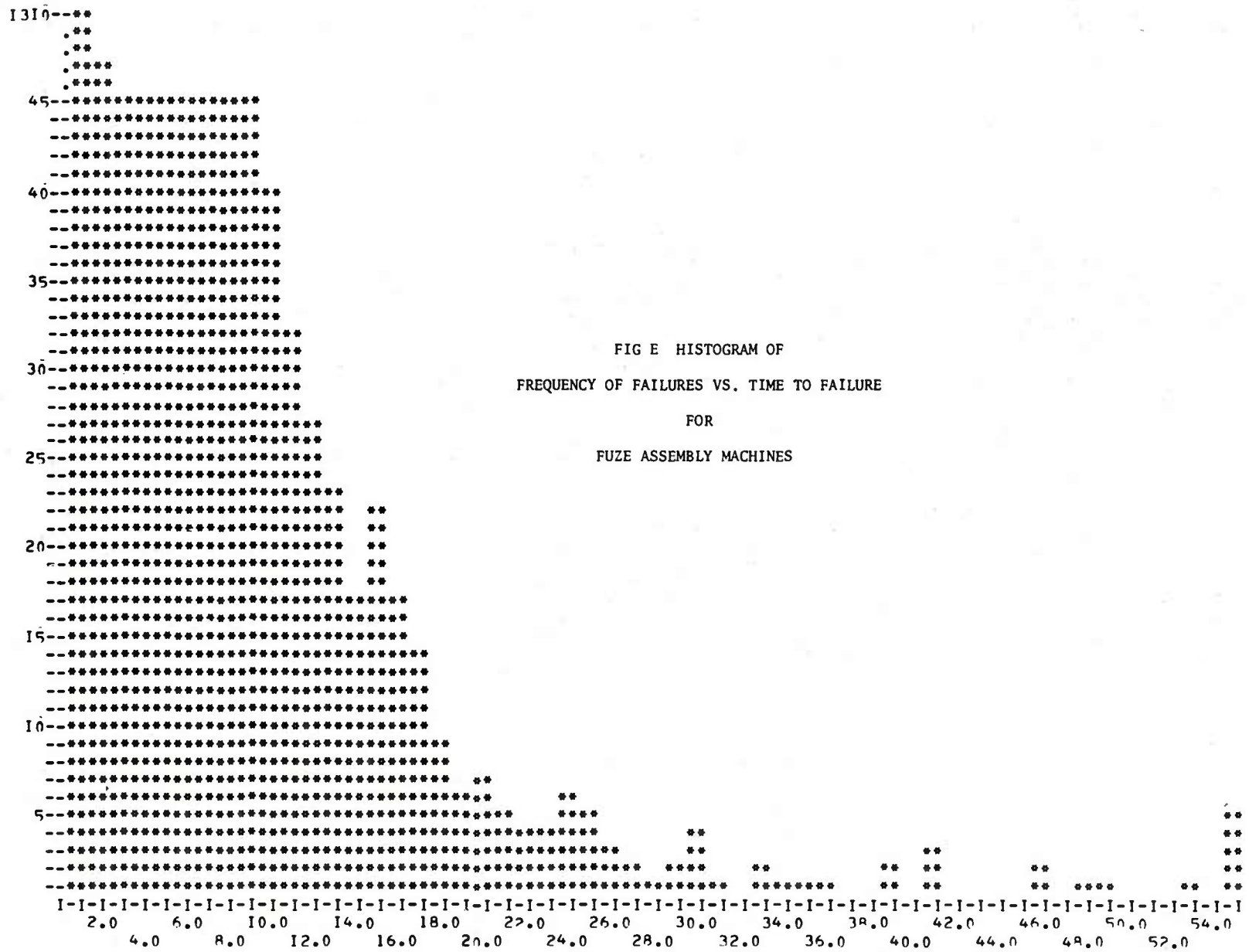


FIG E HISTOGRAM OF

FREQUENCY OF FAILURES VS. TIME TO FAILURE

FOR

FUZE ASSEMBLY MACHINES

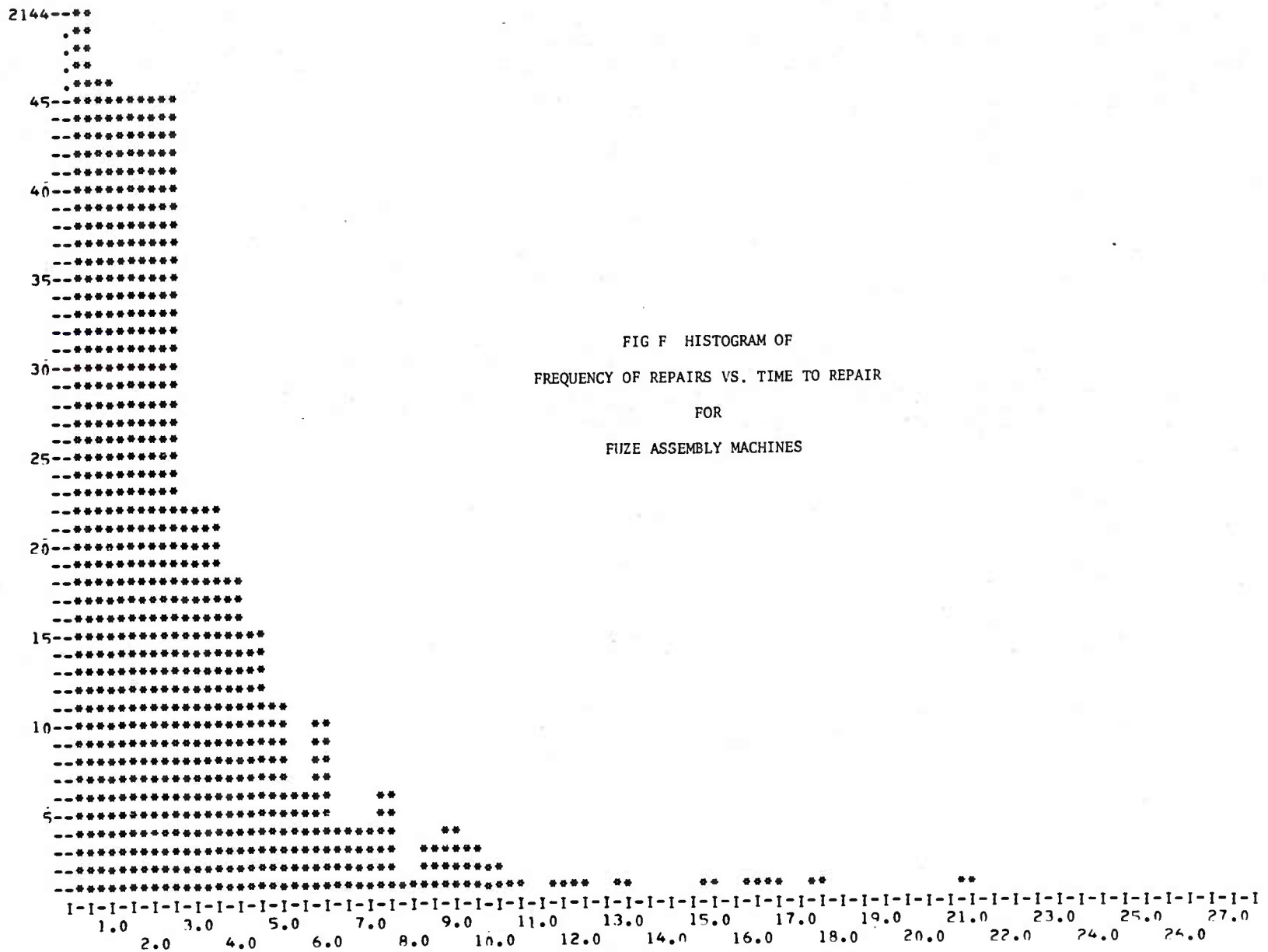


FIG F HISTOGRAM OF

FREQUENCY OF REPAIRS VS. TIME TO REPAIR

FOR

FUZE ASSEMBLY MACHINES

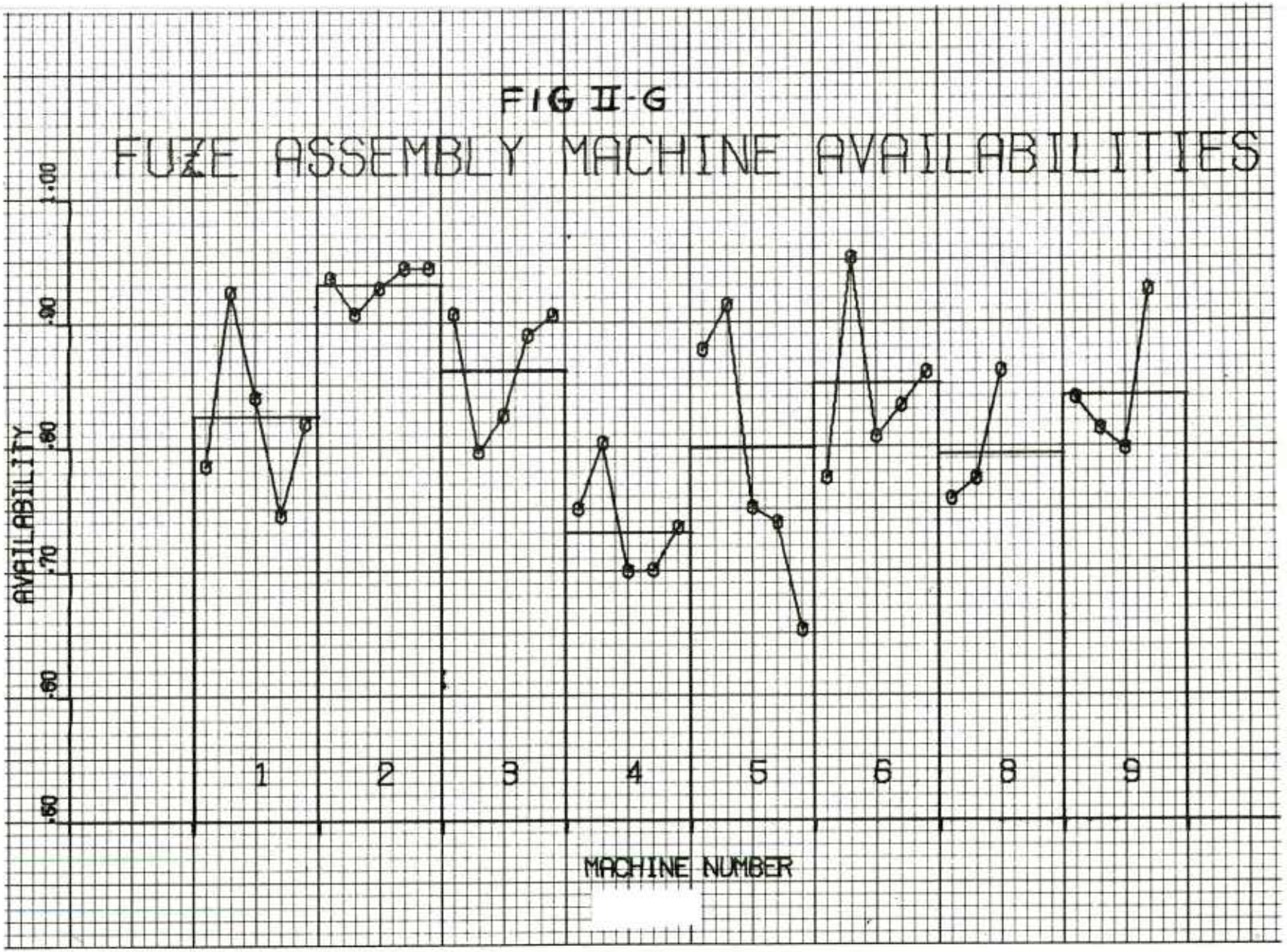


FIG II-G
FUZE ASSEMBLY MACHINE AVAILABILITIES
AVAILABILITY
1.00
.90
.80
.70
.60
.50
1
2
3
4
5
6
8
9
MACHINE NUMBER

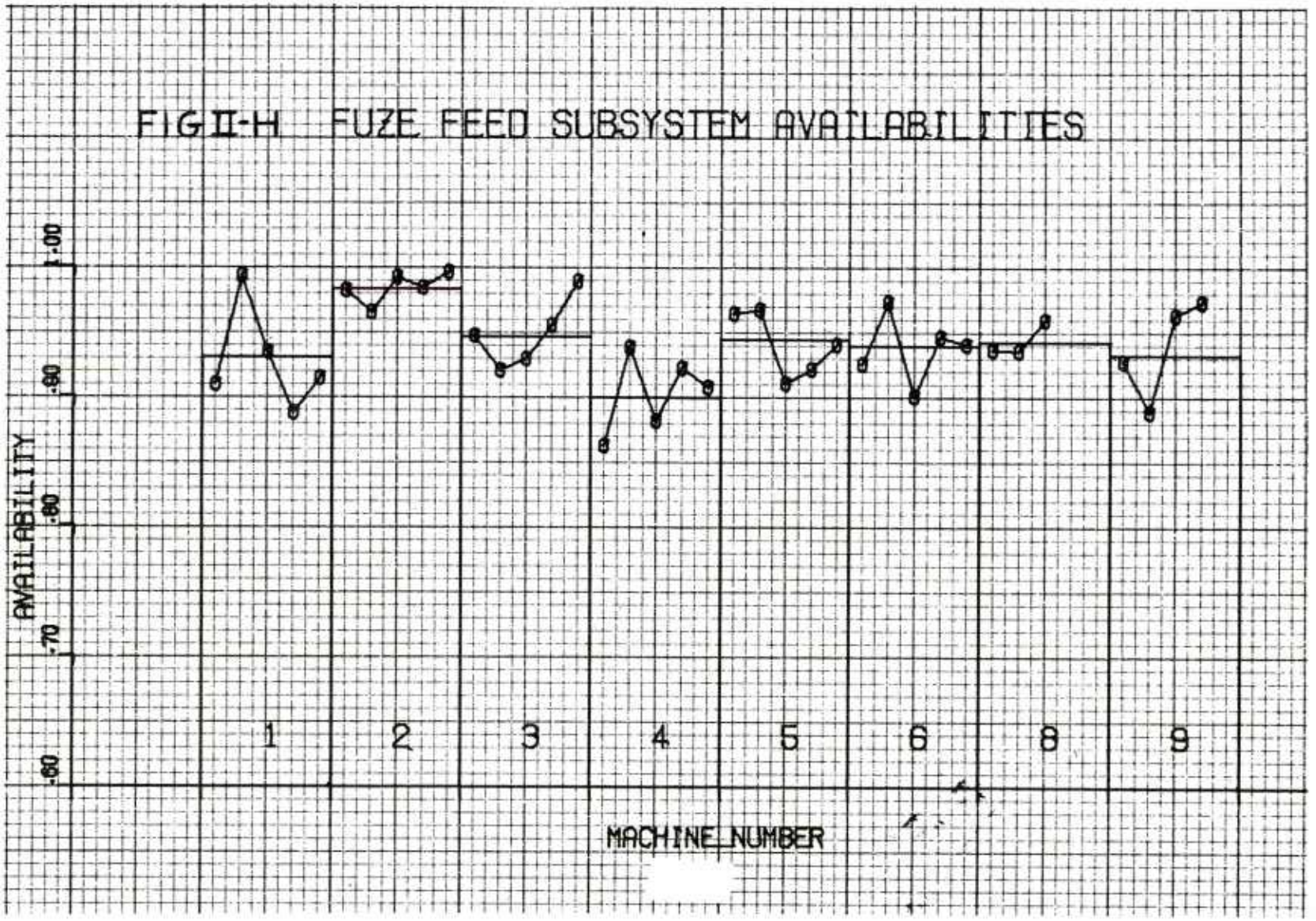


FIG II-H FUZE FEED SUBSYSTEM AVAILABILITIES
AVAILABILITY
1.00
.90
.80
.70
.60
1
2
3
4
5
6
8
9
MACHINE NUMBER

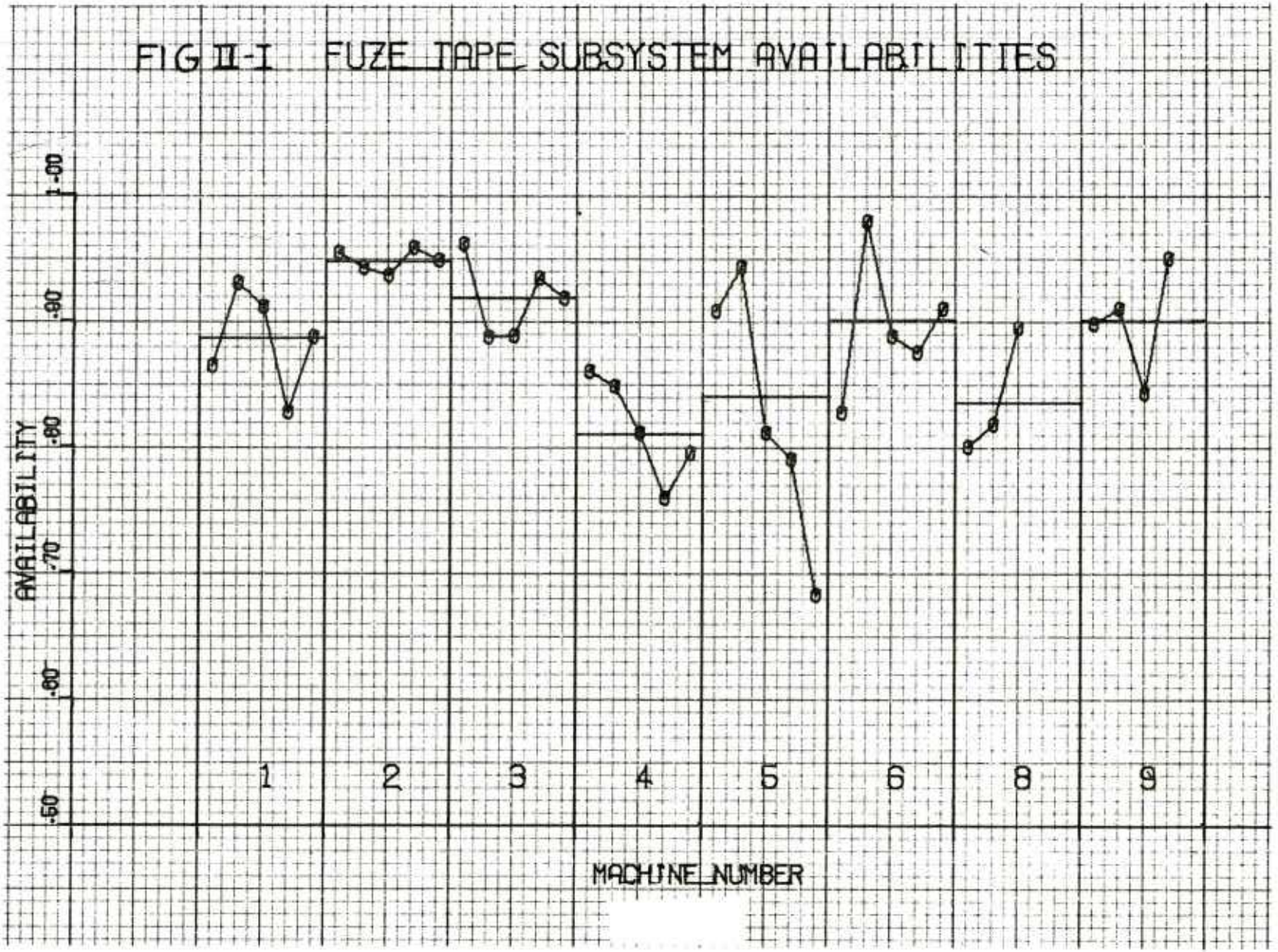


FIG II-I FUZE TAPE SUBSYSTEM AVAILABILITIES
AVAILABILITY
1.00
.90
.80
.70
.60
.50
1
2
3
4
5
6
8
9
MACHINE NUMBER

4. FINAL ASSEMBLY/PACK-OUT SYSTEM

This section summarizes the projectile loading, assembly, and pack-out equipment performance during the demonstration test. The data for this system were collected over a six week period during which the individual serially arranged machines making up this system were observed at different times. The presence of some degree of buffering between stations precluded the use of the product of the individual machine availability estimates, based on the observed RAM data, as an accurage estimate of the system availability. This value does, however, provide an estimate of a lower bound on the system availability. The RAM performance of the individual machines is summarized in Table II-32. The bottom line of this table provides the overall system results. The lower bound on system availability is computed using:

$$A_{sys} \geq \prod_{i=1}^{n} A_i = A_1 \times A_2 \times \ldots \times A_n$$

where the A_i's are the individual machine availability estimates.

A summary of the daily production output of the line is contained in Table II-33. This table also provides the scheduled uptime for each day and resultant estimates of daily net rates of production. An overall estimate of net rate for the line is also provided. This data reflects the important fact that the line has demonstrated that it can load, assemble, and pack-out more than the 672 projectiles per shift, which is the minimum level of production required to meet the MOB rate of 42,000 projectiles per month.

TABLE II-32

SYSTEM SUMMARY

MODULE	MTBF	MTTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
PROJECTILE PLACING STA	33.4	1.0	44	.96994	1514.0	1468.5
FORWARD PLATE + ORIENT STA	276.4	.6	6	.99777	1662.0	1658.3
M42 LAYER 1 INSERTION	729.4	3.0	3	.99592	2197.3	2188.3
M42 LAYER 2 INSERTION	1037.7	.7	2	.99933	2076.8	2075.4
M42 LAYER 3 INSERTION	1015.7	2.3	2	.99778	2036.0	2031.5
M42 LAYER 4 INSERTION	1999.5	1.5	1	.99925	2001.0	1999.5
M42 LAYER 5 INSERTION	989.4	3.1	2	.99683	1985.0	1978.7
M42 LAYER 6 INSERTION	670.4	1.1	3	.99834	2014.5	2011.1
M42 LAYER 7 INSERTION	1598.0	0.0	0	1.00000	1598.0	1598.0
M42 LAYER 8 INSERTION	797.5	1.6	2	.99806	1598.0	1594.9
M46 LAYER 9 INSERTION	1596.0	0.0	0	1.00000	1596.0	1596.0
M46 LAYER 10 INSERTION	1596.0	0.0	0	1.00000	1596.0	1596.0
M46 LAYER 11 INSERTION	1480.0	0.0	0	1.00000	1480.0	1480.0
ADAPTER LAYER INSERTION	257.1	.5	8	.99789	2061.0	2056.6
SHIM INSERTION + GAGING	2076.0	0.0	0	1.00000	2076.0	2076.0
BASE PLUG TORQUE STA	2056.8	0.0	0	1.00000	2056.8	2056.8
PROJECTILE REMOVAL STA	699.4	4.7	2	.99338	1408.1	1398.8
ZONE WEIGH STATION	1650.0	0.0	0	1.00000	1650.0	1650.0
STENCIL M483A1 1	1650.0	0.0	0	1.00000	1650.0	1650.0
LIFTING PLUG TORQUE STA.	1650.0	0.0	0	1.00000	1650.0	1650.0
LEAK TEST STATION	1650.0	0.0	0	1.00000	1650.0	1650.0

LOWER BOUND ON SYSTEM AVAILABILITY = .9455 TOTAL FAILURES = 75 SYSTEM MTTR = 1.20

TABLE II-33
SUMMARY OF PACKOUT PRODUCTION RATES

DATE	SCHED UPTIME	PRODUCTION QTY	NET RATE
11/15/78	329.0	760	2.31
11/16/78	387.0	680	1.76
11/17/78	408.0	660	1.62
11/18/78	390.0	784	2.01
11/28/78	419.0	804	1.92
11/29/78	412.0	928	2.25
11/30/78	420.0	768	1.83
12/01/78	435.0	760	1.75
12/02/78	390.0	767	1.97
12/05/78	475.0	744	1.57
12/06/78	475.0	760	1.60
12/07/78	444.0	768	1.73
12/08/78	420.0	760	1.81
12/09/78	383.0	772	2.02
12/12/78	411.0	768	1.87
12/13/78	419.0	852	2.03
12/14/78	366.0	831	2.27
12/15/78	406.0	816	2.00
12/16/78	383.0	800	2.09
12/19/78	388.0	760	1.96
12/20/78	415.0	784	1.89
12/21/78	414.0	820	1.98
12/22/78	381.0	784	2.06
12/27/78	398.0	800	2.01
12/28/78	420.0	704	1.68
12/29/78	417.0	704	1.69
12/30/78	415.0	800	1.93
TOTAL	11020	20938	1.90

III. SYSTEM DESCRIPTION

A. DESCRIPTION OF DEMONSTRATION TEST

1. DEBUG ACCEPTANCE

After each machine has been installed and debugged, it will be qualified prior to the demonstration test. For a machine or station to qualify it must produce a consecutive number of acceptable parts. The required quantity for each machine is listed below:

MACHINE	ACCEPTABLE PARTS
Hardness Tester	450 Adapters or Grenades
Body Loader	450 Grenades
Fuze Assembly	370 Grenades
Final Assembly	190 Projectiles
Pack-Out	190 Projectiles

2. DEFINITION OF TEST

The test will consist of collecting RAM data for each machine/station which successfully passed the qualification test. The duration of the test will be five days, approximately 400 minutes operation per day for all qualified equipment. Due to limited number of qualified personnel to collect the RAM data it is expected that the test will run for approximately six weeks. The data will be collected in accordance with Form SARPA-QA 2807 and forwarded to ARRADCOM (DRDAR-QAS) on a monthly basis for review and evaluation. Samples of a completed RAM data form and keypunched computer data card are provided in Figure II-I.

3. EQUIPMENT EVALUATION

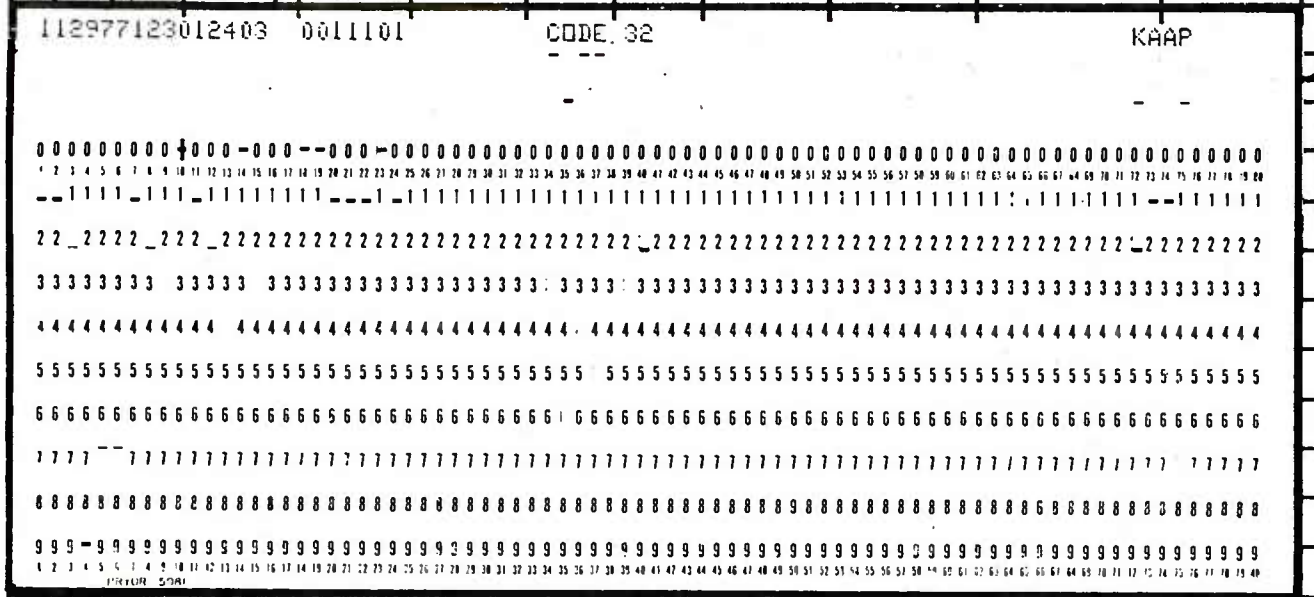
The following type and amount of equipment has been qualified and will undergo the demonstration test:

QTY	TYPE
1	Adapter Hardness Tester
3	Grenade Body Hardness Testers
2	Grenade Body Loaders
8	Fuze Assembly Machines
-	Final Assy/Pack-Out Equipment
1	Projectile Placing Station
2	Forward Plate Insertion Station
11	Grenade Insertion Stations
1	Adapter Insertion Station
1	Shim & Gage Station
1	Base Plug Turque Machine
1	Projectile Transfer Station
1	Zone Weigh Station
1	Stencil Station
1	Lifting Plug Torque Station
1	Leak Test Station

KANSAS A.A.P. | R.A.M. DATA | SIGNATURE PRINTED NAME

PAGE NO | OPERATION: ADAPTER HARDNESS VERIFICATION | BLDG | TOTAL | ROUNDS ~~POUNDS~~ PROCESSED 27480

DATE	START TIME	STOP TIME	STOP CODE	DOWNTIME MIN.	DOWNTIME SEC.	STA. NO.	PRODUCTION RATE	MALFUNCTION PART ID.	MALFUNCTION PERSONNEL	REMARKS
11/29/77	0815	—	0	—	—	101				START OF SHIFT
11/29/77		1000	2	15	00	101				BREAK
11/29/77	1015	1200	2	30	00	101				LUNCH
11/29/77	1230	1240	3	00	11	101				CODE 32
11/29/77	1240	1400	2	15	00	101				BREAK
11/29/77	1415	1506	3	00	22	101				CODE 32
11/29/77	1507	1600	1	—	—	—				END OF SHIFT



← COMPUTER CARD

COLUMN	INFO.
1-6	DATE
7-10	START TIME
11-14	STOP TIME
15	STOP CODE
16-21	DOWNTIME
22-24	STATION No.
34-65	REASON
72-76	PLANT ID

STOP CODES
1. END OF SHIFT
2. BREAK/LUNCH
3. CORRECTIVE MAINTENANCE
4. END OF PRODUCTION RUN
5. PREVENTIVE MAINTENANCE
6. ADMINISTRATIVE (STATE REASON)

TOTAL | ROUNDS ~~POUNDS~~ | REJECTED THIS STA. 0

FIGURE II-J - RAM DATA FORM AND COMPUTER CARD

B. NARRATIVE OF SYSTEM OPERATION

The grenade bodies and adapters are conveyed through a demagnetization coil to eliminate any residual magnetism, then through an eddy coil to verify heat treatment. Parts rejected at this station are manually tested for hardness. Acceptable bodies are conveyed to lead cup insertion machines; the adapters go to projectile loading areas.

The lead cups are automatically inserted and the bodies are conveyed to the automated body loading system.

The bodies are assembled to nests and move into the rotary pellet press which automatically loads and compresses Composition A5 into the grenade bodies. A disassembly machine removes the nest from the grenade body and the loaded body continues to the rotary swaging machine. The nests are conveyed to the ultrasonic nest cleaner to remove excess explosive and returned to the assembly machine.

The rotary swaging machine receives the bodies and cones via conveyor and vibratory feeder system and automatically swages the cone into the body. The loaded grenade bodies are then conveyed to the fuze assembly machines.

The grenades are automatically oriented to accept a fuze and are locked into position. Fuzes are automatically removed from trays and inspected for depth of firing pin. Accepted fuzes are conveyed into the assembly machines and automatically positioned over studs on grenade body. The following checks are automatically performed to assure proper positioning of fuze on body:

1. Orientation of fuze.

2. Position of arming screw weight.

3. Presence and position of spiral pin.

The fuze is then staked to the body. Tape stiffener assemblies are manually placed on circulating ribbon staking fixtures, automatically positioned over the fuze arming screw and clinched to the rivet end of the arming screw. The body then proceeds to the winding fixture and the tape is wound automatically. The grenade assembly is now complete, automatically removed from machine and transferred to lot acceptance holding building. After appropriate functioning tests are performed and the lot is accepted, the grenades are transferred to final assembly.

Empty projectiles are conveyed to projectile placing station, placed in a pallet, oriented with keyway forward and cargo backup ram extended. The forwarded plate with o-ring and rubber pad is inserted into projectile and pallet is released to first grenade loading station. The first layer consisting of eight (8) M42 grenades, spacers, and splines is manually placed in the projectile. An automatic pin-pulling head extends, pushes grenades down in projectile to a set depth, pulls spiral pins and retracts to start position. The next seven layers consist of M42 grenades and are loaded in the same manner except that each layer is loaded at a different station. The next three layers consist of M46 grenades and are loaded using same procedures. After each layer is loaded, a visual check is performed for protruding sliders, presence of spiral pin and incorrect type of grenade (last three layers only). A layer of adapters is loaded into the projectile. A machine is activated to extend, press adapters to predetermined pressure, retract and release pallet. The depth is then automatically gaged at the next station and the required number of shims are added. The base plug is started into the projectile and the pallet passes to the next station where the base plug is automatically torqued and a torque check is performed. The pallet then passes to the zone weigh station which automatically weighs each projectile. The weight is maintained in memory and transferred to the zone stake station. The pallet is then released to this station and automatically stencilled and staked. The expulsion charge cup is then inserted into projectile, staked in place and gaged. The propellant charge is then inserted and the nose plug is started. At the next station, the nose plug is torqued and a torque check is performed. The pallet is then released to automated leak test station. The projectile then manually receives a grommet to protect the rotating band and is placed on a pallet. After palletizing is complete, the pallet goes to shipping and/or storage. A block diagram of this entire operation is contained in the process flow sheet.

C. SIMPLIFIED BLOCK DIAGRAM

On the next page is a block diagram showing the logical flow of materials as described above.

M 483 LAP OPERATION

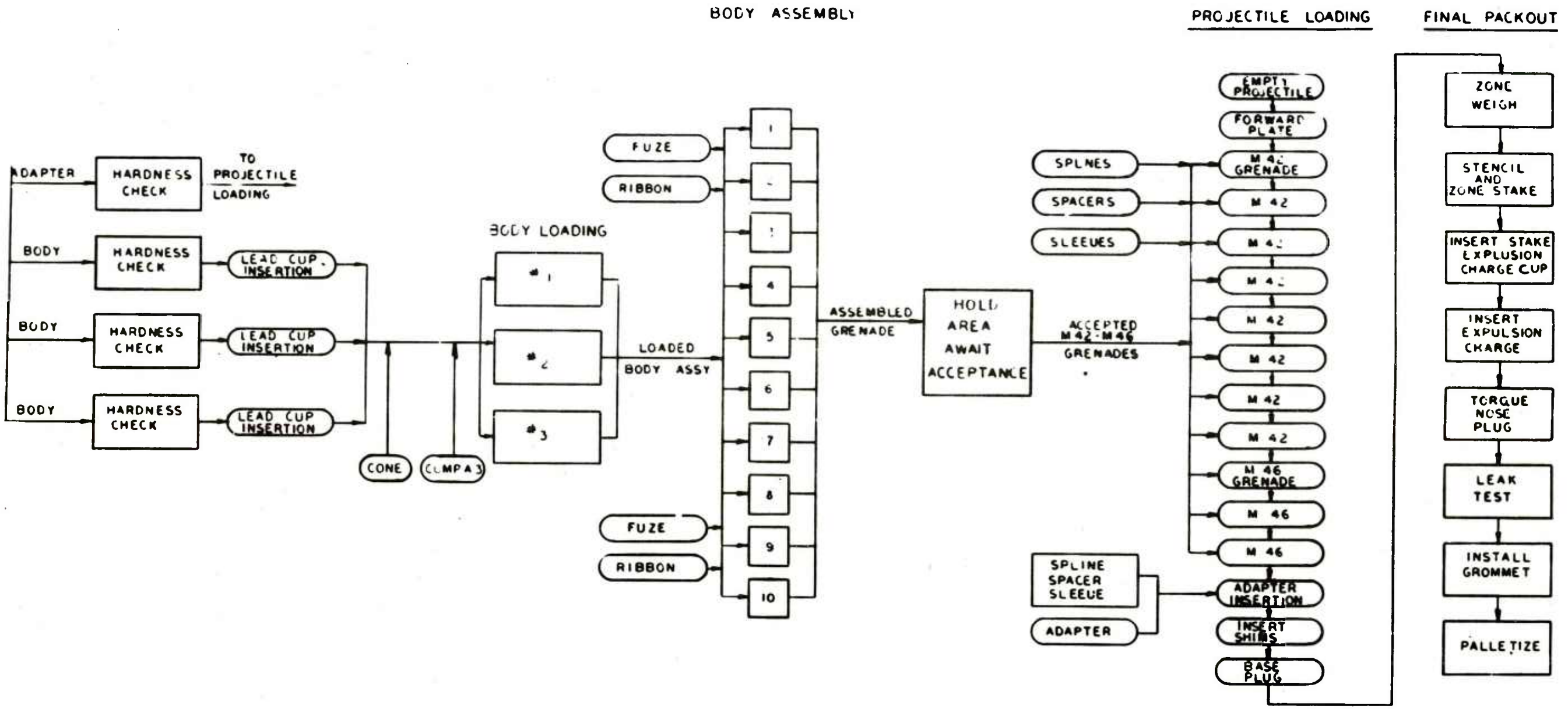


FIGURE II-K BLOCK DIAGRAM OF M483 ASSEMBLY LINE

APPENDIX B

COMPUTERIZED RAM RESULTS

FOR

HARDNESS

BODY LOADING

FUZE ASSEMBLY

FINAL ASSEMBLY/PACK-OUT

MODULE 1 = ADAPTER HARDNESS VERIF. STATION 101 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	09:00						
11/28/77		11:17	120.48	.35	1	1	CODE 32
11/28/77		11:26	8.65	.43	2	2	CODE 32
11/28/77		11:50	23.57	.63	3	3	CODE 32
11/28/77			END OF SHIFT AT 15:35				
11/29/77	08:15						
11/29/77		12:40	399.37	.15	4	4	CODE 32
11/29/77		15:06	130.85	.35	5	5	CODE 32
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:10						
11/30/77		09:28	131.65	.77	6	6	CODE 32
11/30/77		14:35	246.23	.60	7	7	CODE 32
11/30/77			END OF SHIFT AT 15:55				
12/01/77	08:05						
12/01/77		09:48	182.40	.35	8	8	CODE 32
12/01/77		10:47	43.65	.30	9	9	CODE 32
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:15						
12/02/77		09:29	326.70	.18	10	10	CODE 32
12/02/77		09:36	6.82	.27	11	11	CODE 32
12/02/77		10:35	43.73	.27	12	12	CODE 32
12/02/77		10:47	11.73	.18	13	13	CODE 32
12/02/77		14:40	187.82	.48	14	14	CODE 32
12/02/77			END OF SHIFT AT 15:30				

MODULE 2 = BODY HARDNESS VERIF. 1 STATION 102 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:15						
11/28/77			END OF SHIFT AT 15:55				
11/29/77	08:20						
11/29/77		10:24	509.00	1.00	1	15	CODE 35
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:05						
11/30/77		11:00	450.00	.32	2	16	AIR LEAK-REPLACED SOLENOID VALVE
11/30/77			END OF SHIFT AT 15:55				
12/01/77	08:00						
12/01/77		13:25	529.68	.27	3	17	CODE 32
12/01/77		15:03	82.73	.35	4	18	CODE 32
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77			END OF SHIFT AT 15:30				

MODULE 3 = BODY HARDNESS VERIF. 2 STATION 103 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:15						
11/28/77		11:07	157.00	.65	1	19	CODE 33
11/28/77		15:12	189.42	.30	2	20	CODE 32
11/28/77		15:46	33.70	.43	3	21	CODE 36
11/28/77			END OF SHIFT AT 15:55				
11/29/77	08:05						
11/29/77		09:58	121.57	.18	4	22	CODE 36
11/29/77		10:50	36.82	.22	5	23	CODE 33
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:00						
11/30/77		09:09	333.78	.43	6	24	CODE 33
11/30/77		09:11	1.57	.27	7	25	CODE 34
11/30/77		09:12	.73	.18	8	26	CODE 32
11/30/77		13:17	199.82	.55	9	27	CODE 32
11/30/77			END OF SHIFT AT 15:15				
12/01/77	08:05						
12/01/77		12:38	324.93	.32	10	28	CODE 32
12/01/77		14:15	81.68	12.00	11	29	CODE 35
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77		09:02	155.00	.32	12	30	CODE 33
12/02/77		09:40	37.68	.27	13	31	CODE 32
12/02/77		10:50	54.73	.35	14	32	CODE 32
12/02/77		14:40	184.65	.52	15	33	CODE 32
12/02/77			END OF SHIFT AT 15:30				

MODULE 4 = BODY HARDNESS VERIF. 3 STATION 104 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
11/28/77	08:15							
11/28/77		08:27	12.00	.52	1	34	CODE 33	
11/28/77		10:43	120.48	1.10	2	35	CODE 32	
11/28/77		13:07	99.52	.32	3	36	CODE 33	
11/28/77		15:29	126.68	.35	4	37	CODE 32	
11/28/77			END OF SHIFT AT 15:55					
11/29/77	08:30							
11/29/77		09:13	67.50	.35	5	38	CODE 33	
11/29/77		10:35	66.65	.22	6	39	CODE 33	
11/29/77		10:52	16.78	.15	7	40	CODE 33	
11/29/77		11:41	48.85	.32	8	41	CODE 33	
11/29/77		13:40	88.68	1.00	9	42	CODE 32	
11/29/77		13:49	8.00	.43	10	43	CODE 32	
11/29/77			END OF SHIFT AT 16:00					
11/30/77	08:00							
11/30/77		10:48	268.57	2.00	11	44	CODE 35	
11/30/77		11:12	22.00	.32	12	45	CODE 32	
11/30/77		13:15	92.68	.68	13	46	CODE 32	TURNED
11/30/77		14:28	57.32	.80	14	47	CODE 32	
11/30/77		14:48	19.20	.60	15	48	CODE 32	
11/30/77			END OF SHIFT AT 15:55					
12/01/77	08:00							
12/01/77		08:10	76.40	.32	16	49	CODE 32	
12/01/77		08:38	27.68	.57	17	50	CODE 32	
12/01/77		09:02	23.43	1.43	18	51	CODE 32	
12/01/77		09:47	43.57	.48	19	52	CODE 32	
12/01/77		09:56	8.52	1.43	20	53	CODE 32	
12/01/77		10:47	34.57	.27	21	54	CODE 32	
12/01/77		11:26	38.73	.32	22	55	CODE 32	
12/01/77		12:50	53.68	1.00	23	56	CODE 35	
12/01/77		14:15	69.00	10.00	24	57	CODE 35	
12/01/77		15:10	45.00	.30	25	58	CODE 32	
12/01/77		15:23	12.70	.40	26	59	CODE 32	
12/01/77			END OF SHIFT AT 16:00					
12/02/77	08:25							
12/02/77		10:39	155.60	.48	27	60	CODE 32	

MODULE 4 = BODY HARDNESS VERIF. 3 (CONTD) STATION 104 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		11:01	21.52	15.02	28	61	CODE 37
12/02/77		11:20	3.98	14.93	29	62	CODE 37
12/02/77		13:12	67.07	.60	30	63	CODE 32
12/02/77		13:35	22.40	.68	31	64	CODE 32
12/02/77		15:06	73.32	.72	32	65	CODE 32
12/02/77			END OF SHIFT AT 15:30				

MODULE 1 = BODY LOADING STATION 1 STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:00						
11/15/77		08:05	5.00	2.15	1	1	CODE901
11/15/77		08:09	1.85	2.00	2	2	CODE211
11/15/77		08:14	3.00	3.65	3	3	CODE902
11/15/77		08:31	13.35	.65	4	4	CODE605
11/15/77		08:37	5.35	1.47	5	5	CODE211
11/15/77		08:44	5.53	1.00	6	6	CODE409
11/15/77		08:46	1.00	1.47	7	7	CODE605
11/15/77		08:55	7.53	1.47	8	8	CODE902
11/15/77		08:58	1.53	.47	9	9	CODE308
11/15/77		09:00	1.53	.47	10	10	CODE605
11/15/77		09:03	2.53	.47	11	11	CODE210
11/15/77		09:36	32.53	1.00	12	12	CODE502
11/15/77		10:01	24.00	1.00	13	13	CODE902
11/15/77		10:11	9.00	1.40	14	14	CODE211
11/15/77		10:13	.60	.32	15	15	CODE307
11/15/77		10:21	7.68	2.00	16	16	CODE303
11/15/77		11:14	47.68	1.65	17	17	CODE304
11/15/77		11:35	11.88	.55	18	18	CODE901
11/15/77		11:37	1.45	.22	19	19	CODE902
11/15/77		11:45	7.78	1.00	20	20	CODE803
11/15/77		11:49	3.00	.18	21	21	CODE303
11/15/77		11:50	.82	.72	22	22	CODE502
11/15/77		12:02	11.28	.47	23	23	CODE902
11/15/77		12:14	11.53	.72	24	24	CODE202
11/15/77		12:35	20.28	.82	25	25	CODE203
11/15/77		12:41	5.18	.40	26	26	CODE210
11/15/77		13:20	38.60	1.32	27	27	CODE407
11/15/77		13:23	1.68	1.00	28	28	CODE902
11/15/77		13:35	11.00	.35	29	29	CODE902
11/15/77		13:37	1.65	.23	30	30	CODE902
11/15/77		13:54	16.77	1.47	31	31	CODE303
11/15/77		13:57	1.53	.52	32	32	CODE502
11/15/77		14:04	6.48	.18	33	33	CODE303
11/15/77		14:09	4.82	.93	34	34	CODE210
11/15/77		14:23	13.07	1.47	35	35	CODE605
11/15/77		14:55	30.18	.47	36	36	CODE605
11/15/77		14:58	2.53	2.47	37	37	CODE406
11/15/77		15:03	2.53	.63	38	38	CODE504
11/15/77		15:16	12.37	.82	39	39	CODE203

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77		15:20	3.18	.65	40	40	CODE203
11/15/77		15:26	5.35	.72	41	41	CODE902
11/15/77		15:30	3.28	.47	42	42	CODE211
11/15/77		15:35	4.53	.47	43	43	CODE303
11/15/77		15:40	4.53	.77	44	44	CODE504
11/15/77		15:43	2.23	.65	45	45	CODE203
11/15/77		15:44	.35	1.47	46	46	CODE212
11/15/77		15:46	.53	.60	47	47	CODE401
11/15/77		END OF SHIFT AT 16:00					
11/16/17	08:05						
11/16/77		08:06	14.40	1.18	48	48	CODE605
11/16/77		08:11	3.82	1.72	49	49	CODE605
11/16/77		08:16	3.28	.15	50	50	CODE202
11/16/77		08:24	7.85	.60	51	51	CODE210
11/16/77		08:31	6.40	1.00	52	52	CODE605
11/16/77		08:35	3.00	1.00	53	53	CODE202
11/16/77		08:54	18.00	.55	54	54	CODE202
11/16/77		09:30	35.45	1.82	55	55	CODE211
11/16/77		09:44	12.18	.27	56	56	CODE202
11/16/77		09:46	1.73	.22	57	57	CODE202
11/16/77		10:05	18.78	3.00	58	58	CODE502
11/16/77		10:12	4.00	.32	59	59	CODE210
11/16/77		10:29	16.68	.60	60	60	CODE605
11/16/77		10:42	8.18	1.00	61	61	CODE103
11/16/77		10:46	3.00	.18	62	62	CODE202
11/16/77		11:04	9.82	.65	63	63	CODE600
11/16/77		11:40	35.35	.65	64	64	CODE100
11/16/77		11:41	.35	.18	65	65	CODE202
11/16/77		12:42	60.82	6.00	66	66	CODE211
11/16/77		12:48	0.00	3.47	67	67	CODE103
11/16/77		12:55	2.07	2.00	68	68	CODE402
11/16/77		12:58	1.00	2.32	69	69	CODE201
11/16/77		13:25	24.68	.18	70	70	CODE202
11/16/77		13:30	4.82	2.32	71	71	CODE502
11/16/77		13:40	7.68	2.00	72	72	CODE901
11/16/77		13:43	1.00	1.32	73	73	CODE605
11/16/77		13:48	3.68	1.52	74	74	CODE605
11/16/77		13:53	3.48	2.52	75	75	CODE402
11/16/77		14:48	17.48	1.73	76	76	CODE606

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		14:52	2.27	2.93	77	77	CODE211
11/16/77		15:00	4.13	1.52	78	78	CODE901
11/16/77		15:07	5.48	.22	79	79	CODE304
11/16/77		15:18	10.78	1.00	80	80	CODE902
11/16/77		15:25	6.00	1.43	81	81	CODE901
11/16/77		15:27	.57	1.38	82	82	CODE901
11/16/77		15:29	.62	1.43	83	83	CODE901
11/16/77		15:36	5.57	1.77	84	84	CODE901
11/16/77		15:41	3.23	1.35	85	85	CODE901
11/16/77		15:44	1.65	2.00	86	86	CODE103
11/16/77		15:47	1.00	1.43	87	87	CODE901
11/16/77		15:51	2.57	1.02	88	88	CODE901
11/16/77			END OF SHIFT AT 15:55				
11/17/77	08:15						
11/17/77		08:27	12.92	.32	89	89	CODE202
11/17/77		08:31	3.68	1.47	90	90	CODE409
11/17/77		08:35	2.53	.40	91	91	CODE202
11/17/77		08:37	1.60	.47	92	92	CODE605
11/17/77		08:39	1.53	.88	93	93	CODE605
11/17/77		08:41	1.12	1.22	94	94	CODE605
11/17/77		08:43	.78	1.10	95	95	CODE605
11/17/77		08:58	13.90	.85	96	96	CODE605
11/17/77		09:05	6.15	.30	97	97	CODE202
11/17/77		09:07	1.70	.85	98	98	CODE900
11/17/77		09:09	1.15	3.43	99	99	CODE900
11/17/77		09:15	2.57	.43	100	100	CODE202
11/17/77		09:18	2.57	3.27	101	101	CODE605
11/17/77		09:44	22.33	1.43	102	102	CODE202
11/17/77		09:46	.57	2.00	103	103	CODE408
11/17/77		09:48	0.00	2.55	104	104	CODE902
11/17/77		09:51	.45	.32	105	105	CODE503
11/17/77		09:54	2.68	.60	106	106	CODE202
11/17/77		10:17	6.40	3.27	107	107	CODE211
11/17/77		10:28	7.73	1.15	108	108	CODE202
11/17/77		10:42	12.85	.72	109	109	CODE407
11/17/77		11:21	38.28	1.15	110	110	CODE202
11/17/77		11:27	4.85	1.05	111	111	CODE601
11/17/77		11:34	5.95	2.55	112	112	CODE601
11/17/77		11:40	3.45	.90	113	113	CODE601

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		11:45	4.10	1.15	114	114	C00F601
11/17/77		12:53	36.08	.60	115	115	C00F902
11/17/77		13:16	22.40	.85	116	116	C0DF601
11/17/77		13:21	4.15	2.00	117	117	C00E504
11/17/77		13:29	6.00	5.40	118	118	C00F212
11/17/77		13:35	.60	.40	119	119	C00F203
11/17/77		13:39	3.60	1.05	120	120	C0DF406
11/17/77		13:44	3.95	.47	121	121	C0DF601
11/17/77		13:53	8.53	1.30	122	122	C0DF212
11/17/77		14:19	9.70	.88	123	123	C0DF601
11/17/77		14:27	7.12	2.68	124	124	C00F601
11/17/77		14:52	22.32	.27	125	125	C00F202
11/17/77		15:01	8.73	.40	126	126	C0DF202
11/17/77		15:50	48.60	1.00	127	127	C00F103
11/17/77		15:52	1.00	.27	128	128	C00E202
11/17/77			END OF SHIFT AT 16:00				
11/18/77	07:58						
11/18/77		08:09	13.73	1.27	129	129	C00F601
11/18/77		08:13	2.73	.60	130	130	C00F407
11/18/77		08:17	3.40	.52	131	131	C0DF302
11/18/77		08:19	1.48	.82	132	132	C0DF303
11/18/77		08:29	9.18	5.85	133	133	C0DF212
11/18/77		08:37	2.15	1.52	134	134	C0DF503
11/18/77		08:42	3.48	.68	135	135	C0DE407
11/18/77		08:51	8.32	1.72	136	136	C00F605
11/18/77		08:53	.28	2.72	137	137	C00F605
11/18/77		09:25	29.28	.40	138	138	C00F407
11/18/77		09:28	2.60	1.32	139	139	C00F401
11/18/77		09:36	6.68	3.68	140	140	C00F212
11/18/77		10:16	20.32	1.77	141	141	C00F601
11/18/77		10:21	3.23	.72	142	142	C00F601
11/18/77		10:32	10.28	1.00	143	143	C00F601
11/18/77		10:43	10.00	1.10	144	144	C0DF401
11/18/77		10:49	4.90	.77	145	145	C0DF702
11/18/77		11:00	10.23	.47	146	146	C00F407
11/18/77		11:04	3.53	.40	147	147	C00F103
11/18/77		11:10	5.60	.18	148	148	C0DF407
11/18/77		11:14	3.82	.82	149	149	C0DF601
11/18/77		11:23	8.18	1.48	150	150	C0DF504

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		11:32	7.52	.68	151	151	CODE504
11/18/77		11:35	2.32	1.22	152	152	CODE902
11/18/77		11:39	2.78	1.15	153	153	CODF604
11/18/77		12:31	20.45	.77	154	154	CODE407
11/18/77		12:33	1.23	.32	155	155	CODE212
11/18/77		12:48	14.68	.68	156	156	CODF902
11/18/77		12:51	2.32	.60	157	157	CODE202
11/18/77		13:10	18.40	7.68	158	158	CODF507
11/18/77		13:21	3.32	.38	159	159	CODF202
11/18/77		13:39	17.62	1.15	160	160	CODF202
11/18/77		13:49	8.85	1.02	161	161	CODF103
11/18/77		14:29	23.98	1.07	162	162	CODF407
11/18/77		14:51	20.67	.93	163	163	CODF202
11/18/77		15:27	35.07	.57	164	164	CODF503
11/18/77		15:31	3.43	.68	165	165	CODF503
11/18/77		15:34	2.32	.22	166	166	CODF210
11/18/77			END OF SHIFT AT 15:39				

MODULE 2 = BODY LOADING STATION 3 STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:00						
11/15/77		08:06	6.00	3.15	1	167	CODE604
11/15/77		08:10	.85	1.22	2	168	CODE901
11/15/77		08:12	.78	3.00	3	169	CODE901
11/15/77		08:17	2.00	1.85	4	170	CODE604
11/15/77		08:22	3.15	.60	5	171	CODE201
11/15/77		08:32	9.40	.85	6	172	CODE303
11/15/77		08:47	14.15	.52	7	173	CODE203
11/15/77		09:01	8.93	.65	8	174	CODE501
11/15/77		09:04	2.35	2.43	9	175	CODE901
11/15/77		09:27	20.57	1.02	10	176	CODE603
11/15/77		09:41	12.68	.77	11	177	CODE202
11/15/77		10:21	38.97	1.35	12	178	CODE202
11/15/77		10:23	.65	.77	13	179	CODE202
11/15/77		11:46	80.97	.40	14	180	CODE202
11/15/77		12:03	16.60	.15	15	181	CODE202
11/15/77		12:04	.85	.90	16	182	CODE901
11/15/77		12:06	1.10	.38	17	183	CODE901
11/15/77		12:11	4.62	.57	18	184	CODE203
11/15/77		12:15	3.43	.52	19	185	CODE304
11/15/77		12:34	18.48	1.00	20	186	CODE203
11/15/77		13:18	42.53	.90	21	187	CODE202
11/15/77		14:16	56.30	2.48	22	188	CODE901
11/15/77		14:29	10.52	.43	23	189	CODE304
11/15/77		14:37	7.57	.65	24	190	CODE210
11/15/77		15:01	23.08	.72	25	191	CODE203
11/15/77		15:30	28.28	.77	26	192	CODE304
11/15/77			END OF SHIFT AT 16:00				
11/16/77	08:00						
11/16/77		08:15	42.83	.82	27	193	CODE901
11/16/77		08:30	14.18	.22	28	194	CODE202
11/16/77		09:00	29.78	.32	29	195	CODE202
11/16/77		09:24	23.68	0.00	30	196	CODE901
11/16/77		09:33	8.18	.22	31	197	CODE402
11/16/77		09:39	5.78	.72	32	198	CODE401
11/16/77		09:46	6.28	.88	33	199	CODE401
11/16/77		09:50	3.12	3.65	34	200	CODE401
11/16/77		09:57	3.35	3.07	35	201	CODE210
11/16/77		10:09	8.93	.32	36	202	CODE202

MODULE 2 = BODY LOADING STATION 3 (CONTD) STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		10:16	6.68	.22	37	203	CODF401
11/16/77		10:18	1.78	.32	38	204	CODF203
11/16/77		10:23	4.68	1.15	39	205	CODE608
11/16/77		10:34	9.85	3.07	40	206	CODF901
11/16/77		11:07	29.93	.82	41	207	CODF608
11/16/77		11:35	27.18	.40	42	208	LOST AIR PRESSURE
11/16/77		11:37	1.60	.55	43	209	CODF401
11/16/77		12:26	48.45	3.82	44	210	CODF401
11/16/77		12:36	6.18	1.82	45	211	CODE210
11/16/77		12:40	2.18	.65	46	212	CODE210
11/16/77		12:50	9.35	23.00	47	213	CODE402
11/16/77		13:13	0.00	2.72	48	214	CODE402
11/16/77		13:23	7.28	1.65	49	215	CODF901
11/16/77		13:25	.35	.65	50	216	CODE901
11/16/77		13:33	7.35	.47	51	217	CODE401
11/16/77		13:36	2.53	2.15	52	218	CODE401
11/16/77			END OF SHIFT AT 13:48				
11/17/77	08:01						
11/17/77		09:42	22.87	2.43	53	219	CODE901
11/17/77		09:46	1.57	1.32	54	220	CODF201
11/17/77		10:21	13.05	.60	55	221	CODE202
11/17/77		10:27	4.18	1.27	56	222	CODF901
11/17/77		10:31	2.73	1.10	57	223	CODE604
11/17/77		10:41	3.45	1.02	58	224	CODF506
11/17/77		10:49	3.65	.77	59	225	CODE901
11/17/77		10:51	1.23	.63	60	226	CODF202
11/17/77		11:00	2.77	.52	61	227	CODE901
11/17/77		11:04	1.55	1.65	62	228	CODF901
11/17/77		11:06	.35	1.52	63	229	CODE901
11/17/77		11:11	3.48	.47	64	230	CODE210
11/17/77		11:30	18.53	.52	65	231	CODF210
11/17/77		11:31	.48	1.00	66	232	CODF900
11/17/77		11:53	21.00	.48	67	233	CODE604
11/17/77		12:30	2.53	9.22	68	234	CODF902
11/17/77		12:50	6.23	2.52	69	235	CODF203
11/17/77		12:54	1.48	.88	70	236	CODF202
11/17/77		13:27	14.30	1.43	71	237	CODF212
11/17/77		13:32	3.57	7.77	72	238	CODE212
11/17/77		13:48	6.83	6.60	73	239	CODF212

MODULE 2 = BODY LOADING STATION 3 (CONTD) STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		14:40	30.40	.97	74	240	CODE304
11/17/77		14:50	8.68	1.40	75	241	CODE504
11/17/77		14:56	4.60	.43	76	242	CODE304
11/17/77		15:02	2.12	2.18	77	243	CODE504
11/17/77		15:05	.82	1.15	78	244	CODE902
11/17/77		15:07	.85	1.02	79	245	CODE901
11/17/77		15:09	.98	2.38	80	246	CODE604
11/17/77		15:13	1.62	.93	81	247	CODE203
11/17/77		15:15	1.07	2.43	82	248	CODE609
11/17/77		15:22	4.57	1.13	83	249	CODE401
11/17/77		15:25	1.87	.52	84	250	CODE203
11/17/77		15:48	22.48	1.02	85	251	CODE901
11/17/77		15:51	1.98	.77	86	252	CODE901
11/17/77		15:52	.23	1.38	87	253	CODE901
11/17/77		15:54	.62	1.05	88	254	CODE901
11/17/77		15:56	.95	1.00	89	255	CODE401
11/17/77			END OF SHIFT AT 15:58				
11/18/77	08:00						
11/18/77		08:02	3.00	.82	90	256	CODE504
11/18/77		08:04	1.18	1.10	91	257	CODE407
11/18/77		08:34	6.52	7.00	92	258	CODE212
11/18/77		08:45	1.68	1.15	93	259	CODE901
11/18/77		08:52	5.85	2.02	94	260	CODE902
11/18/77		08:58	3.98	1.73	95	261	CODE901
11/18/77		09:01	1.27	2.00	96	262	CODE901
11/18/77		09:07	4.00	1.93	97	263	CODE203
11/18/77		09:25	16.07	4.43	98	264	CODE900
11/18/77		09:50	7.08	1.82	99	265	CODE901
11/18/77		11:00	41.43	2.40	100	266	CODE901
11/18/77		11:20	17.60	.27	101	267	CODE210
11/18/77		11:25	4.73	1.10	102	268	CODE202
11/18/77		11:44	10.67	1.60	103	269	CODE901
11/18/77		11:54	8.40	.68	104	270	CODE202
11/18/77		12:37	10.88	1.60	105	271	CODE604
11/18/77		12:45	5.93	.22	106	272	CODE406
11/18/77		13:08	22.78	.52	107	273	CODE202
11/18/77		13:21	12.48	1.15	108	274	CODE901
11/18/77		13:44	20.92	.65	109	275	CODE210
11/18/77		13:48	3.35	2.10	110	276	CODE406

MODULE 2 = BODY LOADING STATION 3 (CONTD) STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		14:37	30.22	6.27	111	277	C00E406
11/18/77		14:45	1.73	6.80	112	278	C00E406
11/18/77		14:52	.20	1.22	113	279	C00E901
11/18/77		15:00	3.80	7.43	114	280	CODE406
11/18/77		15:08	.57	2.35	115	281	C00F406
11/18/77		15:11	.65	1.52	116	282	CODE401
11/18/77		15:27	9.22	8.82	117	283	C00F406
11/18/77		15:43	7.18	2.15	118	284	C00F405
11/18/77			END OF SHIFT AT 15:46				

MODULE 1 = FUZE ASSEMBLY STATION 1 STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:00						
12/12/77		08:00	0.00	7.00	1	1	MAKE ADJUSTMENTS
12/12/77		08:28	21.00	6.20	2	2	CODE 29
12/12/77		08:36	1.80	1.13	3	3	CODE 12
12/12/77		08:38	.87	.75	4	4	CODE 02
12/12/77		08:41	2.25	.80	5	5	CODE 12
12/12/77		08:42	.20	.58	6	6	CODE 12
12/12/77		08:44	1.42	2.28	7	7	CODE 29
12/12/77		08:47	.72	4.83	8	8	CODE 29
12/12/77		08:52	.17	.53	9	9	CODE 12
12/12/77		08:56	3.47	.43	10	10	CODE 12
12/12/77		08:57	.57	.25	11	11	CODE 24
12/12/77		08:59	1.75	.50	12	12	CODE 12
12/12/77		09:00	.50	.25	13	13	CODE 24
12/12/77		09:01	.75	.50	14	14	CODE 12
12/12/77		09:06	4.50	.75	15	15	JAM GREN PICK UP STA
12/12/77		09:18	11.25	2.80	16	16	CODE 12
12/12/77		09:22	1.20	.25	17	17	CODE 02
12/12/77		09:29	6.75	.53	18	18	CODE 12
12/12/77		09:30	.47	9.58	19	19	REPLACE SPRING ON TAPE
12/12/77		09:41	1.42	5.00	20	20	CODE 28
12/12/77		10:25	39.00	.93	21	21	CODE 12
12/12/77		10:26	.07	.28	22	22	CODE 24
12/12/77		10:29	2.72	1.88	23	23	CODE 12
12/12/77		10:37	6.12	1.05	24	24	CODE 12
12/12/77		10:40	1.95	.63	25	25	CODE 03
12/12/77		10:45	4.37	.58	26	26	CODE 12
12/12/77		10:47	1.42	.20	27	27	CODE 24
12/12/77		10:53	5.80	.43	28	28	CODE 12
12/12/77		10:55	1.57	.58	29	29	CODE 12
12/12/77		10:57	1.42	.53	30	30	CODE 12
12/12/77		11:01	3.47	2.10	31	31	CODE 12
12/12/77		11:04	.90	1.33	32	32	CODE 02
12/12/77		11:06	.67	.68	33	33	CODE 02
12/12/77		11:23	16.32	2.43	34	34	CODE 12
12/12/77		11:30	4.57	.53	35	35	CODE 24
12/12/77		11:36	5.47	1.58	36	36	CODE 12
12/12/77		11:39	1.42	2.10	37	37	CODE 12
12/12/77		12:37	25.90	.50	38	38	CODE 24
12/12/77		12:39	1.50	.25	39	39	CODE 24

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77		12:41	1.42	.58	40	40	CODE 24
12/12/77		12:42	.42	.68	41	41	CODE 27
12/12/77		12:43	.32	.28	42	42	CODE 12
12/12/77		12:44	.72	.63	43	43	CODE 02
12/12/77		12:47	2.37	.68	44	44	CODE 02
12/12/77		12:50	2.32	.63	45	45	CODE 27
12/12/77		13:04	13.37	.50	46	46	CODE 12
12/12/77		13:12	7.50	1.25	47	47	CODE 03
12/12/77		13:20	6.75	.40	48	48	CODE 12
12/12/77		13:23	2.60	.28	49	49	CODE 24
12/12/77		13:25	1.72	3.33	50	50	CODE 12
12/12/77		13:37	8.67	.50	51	51	CODE 27
12/12/77		13:38	.50	.40	52	52	CODE 18
12/12/77		13:39	.60	3.28	53	53	CODE 12
12/12/77		13:43	.72	.50	54	54	CODE 27
12/12/77		13:45	1.50	.25	55	55	CODE 24
12/12/77		14:22	21.75	.50	56	56	CODE 27
12/12/77		14:23	.50	.25	57	57	CODE 12
12/12/77		14:24	.75	.58	58	58	CODE 03
12/12/77		14:27	2.42	.25	59	59	CODE 24
12/12/77		14:29	1.75	.25	60	60	CODE 24
12/12/77		14:41	11.75	.40	61	61	CODE 18
12/12/77		14:47	5.60	1.58	62	62	CODE 12
12/12/77		14:49	.42	.28	63	63	CODE 02
12/12/77		14:50	.72	6.28	64	64	CODE 29
12/12/77		15:19	22.72	.25	65	65	CODE 27
12/12/77		15:23	3.75	.25	66	66	CODE 12
12/12/77		15:25	1.75	.28	67	67	CODE 24
12/12/77		15:34	8.72	.50	68	68	CODE 12
12/12/77		15:41	6.50	.58	69	69	CODE 12
12/12/77			END OF SHIFT AT 15:45				
12/13/77	08:00						
12/13/77		08:07	10.42	.12	70	70	CODE 24
12/13/77		08:17	9.88	.33	71	71	CODE 27
12/13/77		08:26	8.67	.10	72	72	CODE 27
12/13/77		08:31	4.90	.12	73	73	CODE 24
12/13/77		08:32	.88	.10	74	74	CODE 24
12/13/77		08:33	.90	.12	75	75	CODE 25
12/13/77		08:35	1.88	1.10	76	76	CODE 11

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		08:41	4.90	1.25	77	77	CODE 27
12/13/77		08:43	.75	.10	78	78	CODE 24
12/13/77		08:45	1.90	.12	79	79	CODE 24
12/13/77		08:48	2.88	.13	80	80	CODE 02
12/13/77		08:49	.87	.10	81	81	CODE 24
12/13/77		08:54	4.90	.10	82	82	CODE 24
12/13/77		08:55	.90	.12	83	83	CODE 27
12/13/77		09:04	8.88	.10	84	84	CODE 24
12/13/77		09:05	.90	.07	85	85	CODE 02
12/13/77		09:10	4.93	.12	86	86	CODE 02
12/13/77		09:12	1.88	.40	87	87	CODE 02
12/13/77		09:17	4.60	.25	88	88	CODE 02
12/13/77		09:21	3.75	.12	89	89	CODE 24
12/13/77		09:22	.88	.10	90	90	CODE 24
12/13/77		09:25	2.90	.10	91	91	CODE 27
12/13/77		09:32	6.90	.12	92	92	CODE 24
12/13/77		09:33	.88	.10	93	93	CODE 27
12/13/77		09:34	.90	.25	94	94	CODE 02
12/13/77		09:36	1.75	.12	95	95	CODE 03
12/13/77		09:39	2.88	.10	96	96	CODE 24
12/13/77		09:40	.90	.50	97	97	CODE 02
12/13/77		09:42	1.50	.25	98	98	CODE 02
12/13/77		09:43	.75	.12	99	99	CODE 27
12/13/77		09:45	1.88	.10	100	100	CODE 27
12/13/77		09:47	1.90	.13	101	101	CODE 02
12/13/77		09:49	1.87	.50	102	102	CODE 02
12/13/77		09:51	1.50	.13	103	103	CODE 02
12/13/77		09:53	1.87	.10	104	104	CODE 27
12/13/77		09:57	3.90	.12	105	105	CODE 02
12/13/77		10:20	5.88	2.40	106	106	CODE 29
12/13/77		10:24	1.60	.20	107	107	CODE 02
12/13/77		10:29	4.80	.12	108	108	CODE 24
12/13/77		10:30	.88	.25	109	109	CODE 24
12/13/77		10:31	.75	.12	110	110	CODE 24
12/13/77		10:32	.88	.13	111	111	CODE 02
12/13/77		10:38	5.87	.10	112	112	CODE 24
12/13/77		10:39	.90	.10	113	113	CODE 02
12/13/77		10:41	1.90	2.43	114	114	CODE 12
12/13/77		10:44	.57	.13	115	115	CODE 02
12/13/77		10:46	1.87	.43	116	116	CODE 02

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		10:49	2.57	.10	117	117	CODE 24
12/13/77		10:56	6.90	.10	118	118	CODE 27
12/13/77		11:04	7.90	1.10	119	119	CODE 27
12/13/77		11:10	4.90	.10	120	120	CODE 24
12/13/77		11:12	1.90	.10	121	121	CODE 27
12/13/77		11:17	4.90	.10	122	122	CODE 27
12/13/77		11:23	5.90	.10	123	123	CODE 24
12/13/77		11:25	1.90	.10	124	124	CODE 27
12/13/77		11:27	1.90	.25	125	125	CODE 02
12/13/77		11:29	1.75	.40	126	126	CODE 02
12/13/77		11:35	5.60	.53	127	127	CODE 11
12/13/77		11:38	2.47	.10	128	128	CODE 24
12/13/77		11:41	2.90	.10	129	129	CODE 24
12/13/77		11:43	1.90	1.10	130	130	CODE 02
12/13/77		11:50	5.90	.10	131	131	CODE 24
12/13/77		12:37	15.90	.40	132	132	CODE 03
12/13/77		12:40	2.60	.10	133	133	CODE 24
12/13/77		12:41	.90	.10	134	134	CODE 24
12/13/77		12:47	5.90	.13	135	135	CODE 02
12/13/77		12:52	4.87	.10	136	136	CODE 24
12/13/77		12:55	2.90	.13	137	137	CODE 27
12/13/77		12:58	2.87	.10	138	138	CODE 24
12/13/77		13:09	10.90	.13	139	139	CODE 02
12/13/77		13:13	3.87	.10	140	140	CODE 02
12/13/77		13:14	.90	.10	141	141	CODE 24
12/13/77		13:16	1.90	.13	142	142	CODE 27
12/13/77		13:23	6.87	.10	143	143	CODE 24
12/13/77		13:24	.90	.20	144	144	CODE 18
12/13/77		13:26	1.80	1.40	145	145	CODE 02
12/13/77		13:31	3.60	.10	146	146	CODE 24
12/13/77		13:32	.90	.13	147	147	CODE 02
12/13/77		13:36	3.87	.12	148	148	CODE 02
12/13/77		13:41	4.88	.10	149	149	CODE 24
12/13/77		13:42	.90	.33	150	150	CODE 02
12/13/77		13:45	2.67	.10	151	151	CODE 24
12/13/77		13:51	5.90	.12	152	152	CODE 02
12/13/77		13:53	1.88	.10	153	153	CODE 02
12/13/77		14:21	10.90	.13	154	154	CODE 02
12/13/77		14:29	7.87	.13	155	155	CODE 02
12/13/77		14:30	.87	.13	156	156	CODE 02

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		14:34	3.87	.10	157	157	CODE 24
12/13/77		14:35	.90	.10	158	158	CODE 02
12/13/77		14:37	1.90	.10	159	159	CODE 24
12/13/77		14:41	3.90	.10	160	160	CODE 24
12/13/77		14:42	.90	.10	161	161	CODE 24
12/13/77		14:48	5.90	.10	162	162	CODE 27
12/13/77		14:59	10.90	.13	163	163	CODE 02
12/13/77		15:00	.87	.12	164	164	CODE 02
12/13/77		15:01	.88	.10	165	165	CODE 24
12/13/77		15:02	.90	.10	166	166	CODE 27
12/13/77		15:07	4.90	.10	167	167	CODE 02
12/13/77		15:13	5.90	.10	168	168	CODE 24
12/13/77		15:16	2.90	.10	169	169	CODE 24
12/13/77		15:17	.90	.20	170	170	CODE 24
12/13/77		15:18	.80	.10	171	171	CODE 02
12/13/77		15:19	.90	.07	172	172	CODE 02
12/13/77		15:24	4.93	.33	173	173	CODE 24
12/13/77		15:29	4.67	.20	174	174	CODE 02
12/13/77		15:31	1.80	1.00	175	175	CODE 27
12/13/77		15:35	3.00	.20	176	176	CODE 24
12/13/77		15:40	4.80	.23	177	177	CODE 02
12/13/77		15:41	.77	.28	178	178	CODE 02
12/13/77		15:42	.72	1.13	179	179	CODE 02
12/13/77		15:44	.87	.33	180	180	CODE 02
12/13/77		15:45	.67	.28	181	181	CODE 02
12/13/77		15:47	1.72	.53	182	182	CODE 02
12/13/77		15:49	1.47	1.00	183	183	CODE 02
12/13/77			END OF SHIFT AT 15:50				
12/14/77	08:00						
12/14/77		08:09	9.00	.68	184	184	CODE 12
12/14/77		08:10	.32	.25	185	185	CODE 24
12/14/77		08:14	3.75	.20	186	186	CODE 24
12/14/77		08:15	.80	.20	187	187	CODE 12
12/14/77		08:16	.80	.25	188	188	CODE 24
12/14/77		08:17	.75	.25	189	189	CODE 24
12/14/77		08:18	.75	.50	190	190	CODE 12
12/14/77		08:19	.50	1.20	191	191	CODE 24
12/14/77		08:21	.80	.25	192	192	CODE 12
12/14/77		08:22	.75	.25	193	193	CODE 12

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		08:23	.75	.33	194	194	CODE 12
12/14/77		08:24	.67	.58	195	195	CODE 03
12/14/77		08:29	4.42	.63	196	196	CODE 24
12/14/77		08:33	3.37	.25	197	197	CODE 24
12/14/77		08:34	.75	.50	198	198	CODE 03
12/14/77		08:35	.50	.75	199	199	CODE 03
12/14/77		08:38	2.25	1.00	200	200	CODE 12
12/14/77		08:45	6.00	.25	201	201	CODE 24
12/14/77		08:46	.75	.33	202	202	CODE 12
12/14/77		08:47	.67	4.88	203	203	CODE 12
12/14/77		08:53	1.12	.28	204	204	CODE 12
12/14/77		08:54	.72	.25	205	205	CODE 24
12/14/77		08:55	.75	.58	206	206	CODE 12
12/14/77		08:57	1.42	.33	207	207	CODE 12
12/14/77		09:01	3.67	.33	208	208	CODE 24
12/14/77		09:02	.67	.63	209	209	CODE 28
12/14/77		09:05	2.37	.50	210	210	CODE 12
12/14/77		09:08	2.50	.40	211	211	CODE 12
12/14/77		09:11	2.60	.33	212	212	CODE 24
12/14/77		09:15	3.67	.40	213	213	CODE 12
12/14/77		09:18	2.60	.25	214	214	CODE 24
12/14/77		09:19	.75	.25	215	215	CODE 24
12/14/77		09:21	1.75	.25	216	216	CODE 24
12/14/77		09:22	.75	1.20	217	217	CODE 24
12/14/77		09:28	4.80	.28	218	218	CODE 12
12/14/77		09:29	.72	.25	219	219	CODE 24
12/14/77		09:30	.75	.40	220	220	CODE 24
12/14/77		09:33	2.60	.50	221	221	CODE 24
12/14/77		09:35	1.50	.40	222	222	CODE 18
12/14/77		09:37	1.60	.50	223	223	CODE 18
12/14/77		09:38	.50	3.00	224	224	CODE 11
12/14/77		09:42	1.00	.33	225	225	CODE 02
12/14/77		09:43	.67	.63	226	226	CODE 12
12/14/77		09:48	3.37	.40	227	227	CODE 24
12/14/77		09:49	.60	.63	228	228	CODE 18
12/14/77		09:50	.37	.68	229	229	CODE 28
12/14/77		09:51	.32	4.50	230	230	CODE 28
12/14/77		10:20	9.50	.58	231	231	CODE 12
12/14/77		10:21	.42	.53	232	232	CODE 24
12/14/77		10:24	2.47	.28	233	233	CODE 18

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		10:28	3.72	.25	234	234	CODE 24
12/14/77		10:32	3.75	.25	235	235	CODE 24
12/14/77		10:34	1.75	.33	236	236	CODE 03
12/14/77		10:36	1.67	1.00	237	237	CODE 18
12/14/77		10:39	2.00	1.33	238	238	CODE 03
12/14/77		10:43	2.67	.25	239	239	CODE 24
12/14/77		10:45	1.75	.20	240	240	CODE 24
12/14/77		10:46	.80	1.40	241	241	CODE 12
12/14/77		10:48	.60	.25	242	242	CODE 24
12/14/77		10:53	4.75	.25	243	243	CODE 24
12/14/77		10:54	.75	.83	244	244	CODE 28
12/14/77		10:56	1.17	1.00	245	245	CODE 28
12/14/77		10:59	2.00	.75	246	246	CODE 18
12/14/77		11:06	6.25	.28	247	247	CODE 12
12/14/77		11:08	1.72	.25	248	248	CODE 24
12/14/77		11:09	.75	.53	249	249	CODE 03
12/14/77		11:10	.47	.80	250	250	CODE 03
12/14/77		11:11	.20	.50	251	251	CODE 03
12/14/77		11:17	5.50	.25	252	252	CODE 24
12/14/77		11:27	9.75	.20	253	253	CODE 24
12/14/77		11:30	2.80	.25	254	254	CODE 24
12/14/77		11:37	6.75	.33	255	255	CODE 03
12/14/77		11:48	10.67	.25	256	256	CODE 24
12/14/77		12:37	48.75	.20	257	257	CODE 24
12/14/77		12:38	.80	1.50	258	258	CODE 03
12/14/77		12:41	1.50	.50	259	259	CODE 03
12/14/77		12:44	2.50	.43	260	260	CODE 12
12/14/77		12:50	5.57	.50	261	261	CODE 12
12/14/77		12:52	1.50	.25	262	262	CODE 24
12/14/77		13:03	10.75	.25	263	263	CODE 24
12/14/77		13:04	.75	.20	264	264	CODE 24
12/14/77		13:17	12.80	.25	265	265	CODE 24
12/14/77		13:18	.75	.33	266	266	CODE 03
12/14/77		13:19	.67	.58	267	267	CODE 12
12/14/77		13:25	5.42	.20	268	268	CODE 24
12/14/77		13:30	4.80	.25	269	269	CODE 24
12/14/77		13:36	5.75	.33	270	270	CODE 12
12/14/77		13:37	.67	.33	271	271	CODE 18
12/14/77		13:40	2.67	.50	272	272	CODE 11
12/14/77		13:42	1.50	.25	273	273	CODE 24

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		13:45	2.75	.25	274	274	CODE 24
12/14/77		13:48	2.75	.43	275	275	CODE 12
12/14/77		14:20	16.57	.83	276	276	CODE 12
12/14/77		14:24	3.17	2.25	277	277	CODE 12
12/14/77		14:27	.75	.58	278	278	CODE 28
12/14/77		14:28	.42	1.43	279	279	CODE 02
12/14/77		14:30	.57	.53	280	280	CODE 12
12/14/77		14:32	1.47	1.40	281	281	CODE 18
12/14/77		14:34	.60	1.68	282	282	CODE 12
12/14/77		14:37	1.32	.53	283	283	CODE 12
12/14/77		14:42	4.47	.25	284	284	CODE 24
12/14/77		14:52	9.75	.25	285	285	CODE 24
12/14/77		14:55	2.75	.63	286	286	CODE 12
12/14/77		14:56	.37	.53	287	287	CODE 12
12/14/77		14:59	2.47	.25	288	288	CODE 24
12/14/77		15:03	3.75	1.28	289	289	CODE 02
12/14/77		15:05	.72	.68	290	290	CODE 03
12/14/77		15:13	7.32	.20	291	291	CODE 24
12/14/77		15:15	1.80	.20	292	292	CODE 24
12/14/77		15:17	1.80	.25	293	293	CODE 24
12/14/77		15:28	10.75	.25	294	294	CODE 24
12/14/77		15:30	1.75	.20	295	295	CODE 24
12/14/77		15:31	.80	1.40	296	296	CODE 12
12/14/77		15:33	.60	1.20	297	297	CODE 12
12/14/77		15:37	2.80	.20	298	298	CODE 12
12/14/77		15:39	1.80	.25	299	299	CODE 02
12/14/77		15:43	3.75	.25	300	300	CODE 24
12/14/77			END OF SHIFT AT 15:50				
12/15/77	08:00						
12/15/77		08:03	9.75	.88	301	301	CODE 18
12/15/77		08:07	3.12	1.13	302	302	CODE 12
12/15/77		08:09	.87	.40	303	303	CODE 12
12/15/77		08:11	1.60	.25	304	304	CODE 24
12/15/77		08:13	1.75	.28	305	305	CODE 12
12/15/77		08:18	4.72	.25	306	306	CODE 24
12/15/77		08:20	1.75	9.00	307	307	CODE 29
12/15/77		08:32	3.00	2.28	308	308	CODE 03
12/15/77		08:37	2.72	.25	309	309	CODE 24
12/15/77		08:38	.75	1.75	310	310	CODE 11

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		08:40	.25	1.28	311	311	CODE 11
12/15/77		08:42	.72	.25	312	312	CODE 24
12/15/77		08:46	3.75	.25	313	313	CODE 24
12/15/77		08:47	.75	.28	314	314	CODE 24
12/15/77		08:51	3.72	.28	315	315	CODE 24
12/15/77		08:53	1.72	.20	316	316	CODE 24
12/15/77		08:57	3.80	.25	317	317	CODE 24
12/15/77		09:01	3.75	.33	318	318	CODE 12
12/15/77		09:03	1.67	.93	319	319	CODE 12
12/15/77		09:08	4.07	.53	320	320	CODE 12
12/15/77		09:09	.47	.25	321	321	CODE 24
12/15/77		09:37	12.55	.25	322	322	CODE 24
12/15/77		09:42	4.75	.20	323	323	CODE 24
12/15/77		09:43	.80	.50	324	324	CODE 12
12/15/77		09:44	.50	.88	325	325	CODE 12
12/15/77		09:45	.12	.43	326	326	CODE 12
12/15/77		09:46	.57	.75	327	327	CODE 12
12/15/77		09:48	1.25	.43	328	328	CODE 27
12/15/77		09:52	3.57	.80	329	329	CODE 12
12/15/77		10:21	28.20	.40	330	330	CODE 02
12/15/77		10:22	.60	1.10	331	331	CODE 12
12/15/77		10:31	7.90	.20	332	332	CODE 24
12/15/77		10:49	17.80	.25	333	333	CODE 24
12/15/77		11:14	4.50	.88	334	334	CODE 11
12/15/77		11:16	1.12	.68	335	335	CODE 11
12/15/77		11:17	.32	1.50	336	336	CODE 11
12/15/77		11:21	2.50	.25	337	337	CODE 24
12/15/77		11:25	3.75	.25	338	338	CODE 24
12/15/77		11:26	.75	.28	339	339	CODE 24
12/15/77		11:35	8.72	.40	340	340	CODE 02
12/15/77		11:37	1.60	.25	341	341	CODE 24
12/15/77		12:30	.75	15.00	342	342	CODE 11
12/15/77		12:48	3.00	1.20	343	343	CODE 12
12/15/77		12:53	3.80	.58	344	344	CODE 12
12/15/77		12:55	1.42	.20	345	345	CODE 02
12/15/77		12:59	3.80	.25	346	346	CODE 24
12/15/77		13:03	3.75	.20	347	347	CODE 24
12/15/77		13:06	2.80	.40	348	348	CODE 12
12/15/77		13:10	3.60	.88	349	349	CODE 12
12/15/77		13:14	3.12	.43	350	350	CODE 24

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		13:15	.57	3.10	351	351	CODE 12
12/15/77		13:19	.90	.43	352	352	CODE 12
12/15/77		13:20	.57	.40	353	353	CODE 12
12/15/77		13:21	.60	1.20	354	354	CODE 28
12/15/77		13:23	.80	.25	355	355	CODE 24
12/15/77		13:25	1.75	.20	356	356	CODE 24
12/15/77		13:26	.80	.20	357	357	CODE 24
12/15/77		13:28	1.80	2.28	358	358	CODE 12
12/15/77		13:31	.72	.50	359	359	CODE 12
12/15/77		13:32	.50	.80	360	360	CODE 12
12/15/77		13:33	.20	2.50	361	361	CODE 12
12/15/77		13:41	5.50	1.25	362	362	CODE 12
12/15/77		13:55	12.75	.53	363	363	CODE 12
12/15/77		14:18	7.47	2.20	364	364	CODE 11
12/15/77		14:28	7.80	.25	365	365	CODE 24
12/15/77		14:33	4.75	1.68	366	366	CODE 03
12/15/77		14:36	1.32	.40	367	367	CODE 24
12/15/77		14:38	1.60	.80	368	368	CODE 04
12/15/77		14:40	1.20	.63	369	369	CODE 04
12/15/77		14:42	1.37	.58	370	370	CODE 04
12/15/77		14:47	4.42	1.00	371	371	CODE 04
12/15/77		14:48	0.00	2.88	372	372	CODE 29
12/15/77		14:57	6.12	.50	373	373	CODE 12
12/15/77		14:59	1.50	.88	374	374	CODE 04
12/15/77		15:01	1.12	1.20	375	375	CODE 12
12/15/77		15:03	.80	.43	376	376	CODE 12
12/15/77		15:04	.57	.63	377	377	CODE 03
12/15/77		15:06	1.37	1.13	378	378	CODE 12
12/15/77		15:08	.87	3.88	379	379	CODE 29
12/15/77		15:14	2.12	.43	380	380	CODE 12
12/15/77		15:19	4.57	5.58	381	381	CODE 12
12/15/77		15:31	6.42	.20	382	382	CODE 24
12/15/77		15:35	3.80	2.20	383	383	CODE 12
12/15/77		15:41	3.80	.28	384	384	CODE 24
12/15/77			END OF SHIFT AT 15:45				
12/16/77	08:00						
12/16/77		08:03	6.72	.25	385	385	CODE 24
12/16/77		08:05	1.75	1.20	386	386	CODE 29
12/16/77		08:19	9.05	8.80	387	387	MAKE ADJUSTMENTS TO CLUTCH

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		08:35	7.20	1.68	388	388	CODE 12
12/16/77		08:37	.32	.58	389	389	CODE 24
12/16/77		08:38	.42	.53	390	390	CODE 12
12/16/77		08:39	.47	.50	391	391	CODE 12
12/16/77		08:40	.50	.75	392	392	CODE 12
12/16/77		08:41	.25	.40	393	393	CODE 24
12/16/77		08:45	3.60	.25	394	394	CODE 24
12/16/77		08:50	4.75	5.53	395	395	CODE 29
12/16/77		08:57	1.47	.75	396	396	CODE 12
12/16/77		09:01	3.25	.58	397	397	CODE 12
12/16/77		09:05	3.42	2.80	398	398	CODE 12
12/16/77		09:09	1.20	1.25	399	399	CODE 12
12/16/77		09:13	2.75	.20	400	400	CODE 24
12/16/77		09:15	1.80	.25	401	401	CODE 24
12/16/77		09:20	4.75	.58	402	402	CODE 12
12/16/77		09:30	9.42	.25	403	403	CODE 24
12/16/77		10:21	15.75	.25	404	404	CODE 24
12/16/77		10:30	8.75	.50	405	405	CODE 12
12/16/77		10:35	4.50	.58	406	406	CODE 24
12/16/77		10:36	.42	.53	407	407	CODE 12
12/16/77		10:41	4.47	.43	408	408	CODE 12
12/16/77		10:42	.57	.93	409	409	CODE 12
12/16/77		10:45	2.07	.25	410	410	CODE 24
12/16/77		10:46	.75	.80	411	411	CODE 03
12/16/77		10:50	3.20	.63	412	412	CODE 12
12/16/77		10:57	6.37	.33	413	413	CODE 24
12/16/77		10:58	.67	.20	414	414	CODE 24
12/16/77		11:00	1.80	2.20	415	415	CODE 12
12/16/77		11:04	1.80	.25	416	416	CODE 24
12/16/77		11:11	6.75	.80	417	417	CODE 12
12/16/77		11:14	2.20	.25	418	418	CODE 24
12/16/77		11:19	4.75	1.20	419	419	CODE 18
12/16/77		11:24	3.80	.20	420	420	CODE 24
12/16/77		11:25	.80	.43	421	421	CODE 12
12/16/77		11:28	2.57	.88	422	422	CODE 03
12/16/77		11:37	8.12	1.20	423	423	CODE 12
12/16/77		11:45	6.80	.25	424	424	CODE 24
12/16/77		11:52	6.75	1.58	425	425	CODE 03
12/16/77		12:42	18.42	.40	426	426	CODE 12
12/16/77		12:46	3.60	.75	427	427	CODE 18

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		12:48	1.25	.50	428	428	CODE 02
12/16/77		12:50	1.50	.28	429	429	CODE 24
12/16/77		12:53	2.72	.25	430	430	CODE 24
12/16/77		12:57	3.75	.40	431	431	CODE 18
12/16/77		13:02	4.60	.43	432	432	CODE 18
12/16/77		13:05	2.57	.25	433	433	CODE 24
12/16/77		13:09	3.75	2.33	434	434	CODE 12
12/16/77		13:22	10.67	.75	435	435	CODE 12
12/16/77		13:28	5.25	.68	436	436	CODE 24
12/16/77		13:30	1.32	.28	437	437	CODE 24
12/16/77		13:36	5.72	.25	438	438	CODE 24
12/16/77		13:46	9.75	1.20	439	439	CODE 12
12/16/77		13:52	4.80	2.20	440	440	CODE 18
12/16/77		14:51	17.80	.25	441	441	CODE 24
12/16/77		14:52	.75	1.20	442	442	CODE 12
12/16/77		14:55	1.80	1.80	443	443	CODE 12
12/16/77		15:05	8.20	.33	444	444	CODE 12
12/16/77		15:06	.67	1.80	445	445	CODE 18
12/16/77		15:13	5.20	.25	446	446	CODE 24
12/16/77		15:14	.75	.50	447	447	CODE 18
12/16/77		15:15	.50	.25	448	448	CODE 24
12/16/77		END OF SHIFT AT 15:15					

MODULE 2 = FUZE ASSEMBLY STATION 2 STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:00						
12/12/77		08:05	5.00	.50	1	449	CODE 12
12/12/77		08:10	4.50	.28	2	450	CODE 27
12/12/77		08:15	4.72	.20	3	451	CODE 12
12/12/77		08:18	2.80	1.20	4	452	CODE 07
12/12/77		08:27	7.80	.20	5	453	CODE 24
12/12/77		08:28	.80	.20	6	454	CODE 24
12/12/77		08:29	.80	.33	7	455	CODE 24
12/12/77		08:31	1.67	.13	8	456	CODE 24
12/12/77		08:36	4.87	.20	9	457	CODE 12
12/12/77		08:48	11.80	1.33	10	458	CODE 27
12/12/77		08:57	7.67	.10	11	459	CODE 27
12/12/77		09:16	18.90	.20	12	460	CODE 24
12/12/77		09:30	11.55	.53	13	461	CODE 12
12/12/77		09:37	6.47	.25	14	462	CODE 24
12/12/77		09:39	1.75	1.10	15	463	CODE 27
12/12/77		09:51	10.90	.25	16	464	CODE 24
12/12/77		10:28	21.35	.25	17	465	CODE 02
12/12/77		10:52	23.75	.25	18	466	CODE 12
12/12/77		10:56	3.75	.20	19	467	CODE 24
12/12/77		10:59	2.80	.25	20	468	CODE 12
12/12/77		11:27	27.75	.40	21	469	CODE 28
12/12/77		11:47	19.60	.28	22	470	CODE 24
12/12/77		12:32	14.72	0.00	23	471	CODE 27
12/12/77		12:38	6.00	.28	24	472	TAPE CAUGHT ON BODY EJECT
12/12/77		12:48	9.72	.53	25	473	CODE 12
12/12/77		12:51	2.47	.20	26	474	CODE 12
12/12/77		12:53	1.80	.53	27	475	CODE 02
12/12/77		12:55	1.47	.40	28	476	CODE 12
12/12/77		13:29	33.60	.28	29	477	CODE 17
12/12/77		13:44	14.72	.20	30	478	CODE 24
12/12/77		14:20	20.80	2.33	31	479	CODE 12
12/12/77		14:26	3.67	.33	32	480	CODE 12
12/12/77		14:35	8.67	1.00	33	481	CODE 12
12/12/77		14:37	1.00	.25	34	482	CODE 12
12/12/77		14:54	16.75	3.40	35	483	CODE 15
12/12/77		15:04	6.60	4.50	36	484	CODE 11
12/12/77		15:16	7.50	.25	37	485	CODE 02
12/12/77		15:17	.75	.33	38	486	CODE 24
12/12/77		15:28	10.67	1.43	39	487	CODE 07

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77		15:31	1.57	.25	40	488	CODE 07
12/12/77		15:34	2.75	.13	41	489	CODE 28
12/12/77		15:44	9.87	.28	42	490	CODE 17
12/12/77		15:45	.72	.40	43	491	CODE 02
12/12/77		15:49	3.60	.25	44	492	CODE 27
12/12/77			END OF SHIFT AT 15:54				
12/13/77	08:00						
12/13/77		08:11	15.75	.20	45	493	CODE 24
12/13/77		08:16	4.80	.25	46	494	CODE 27
12/13/77		08:46	29.42	5.50	47	495	CODE 25
12/13/77		08:56	4.50	.25	48	496	CODE 24
12/13/77		08:59	2.75	.20	49	497	CODE 18
12/13/77		09:14	14.80	.25	50	498	CODE 27
12/13/77		09:20	5.75	.25	51	499	CODE 27
12/13/77		09:22	1.75	.20	52	500	CODE 24
12/13/77		09:31	8.80	.43	53	501	CODE 25
12/13/77		09:36	4.57	.20	54	502	CODE 27
12/13/77		09:39	2.80	.13	55	503	CODE 12
12/13/77		09:40	.87	1.33	56	504	CODE 16
12/13/77		09:54	12.67	.20	57	505	CODE 27
12/13/77		10:20	10.80	.40	58	506	CODE 29
12/13/77		10:22	1.60	9.25	59	507	CODE 29
12/13/77		10:40	8.75	.28	60	508	CODE 12
12/13/77		10:48	7.72	.25	61	509	CODE 24
12/13/77		10:50	1.75	2.20	62	510	CODE 04
12/13/77		10:57	4.80	2.43	63	511	CODE 04
12/13/77		11:01	1.57	1.13	64	512	CODE 12
12/13/77		11:04	1.87	.28	65	513	CODE 12
12/13/77		11:05	.72	2.25	66	514	CODE 12
12/13/77		11:14	6.75	.20	67	515	CODE 27
12/13/77		11:18	3.80	.25	68	516	CODE 27
12/13/77		11:29	10.75	.20	69	517	CODE 27
12/13/77		11:35	5.80	1.50	70	518	CODE 12
12/13/77		11:39	2.50	1.25	71	519	CODE 28
12/13/77		11:44	3.75	.13	72	520	CODE 28
12/13/77		11:51	6.87	.40	73	521	CODE 12
12/13/77		12:32	10.60	.40	74	522	CODE 24
12/13/77		12:52	19.60	.20	75	523	CODE 24
12/13/77		12:55	2.80	.28	76	524	CODE 02

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		13:02	6.72	.20	77	525	CODE 12
12/13/77		13:15	12.80	.13	78	526	CODE 24
12/13/77		13:17	1.87	.25	79	527	CODE 03
12/13/77		13:19	1.75	.25	80	528	BODY DOWN ON INFEED
12/13/77		14:56	81.32	1.40	81	529	CODE 12
12/13/77		15:00	2.60	1.20	82	530	CODE 02
12/13/77		15:12	10.80	.25	83	531	CODE 27
12/13/77		15:20	7.75	.25	84	532	CODE 24
12/13/77		15:25	4.75	.28	85	533	CODE 24
12/13/77		15:27	1.72	.53	86	534	CODE 24
12/13/77		15:44	16.47	.13	87	535	CODE 18
12/13/77		15:47	2.87	.33	88	536	CODE 27
12/13/77			END OF SHIFT AT 15:50				
12/14/77	08:00						
12/14/77		08:13	15.67	.25	89	537	CODE 24
12/14/77		08:14	.75	1.20	90	538	CODE 24
12/14/77		08:16	.80	.10	91	539	CODE 24
12/14/77		08:17	.90	.28	92	540	CODE 02
12/14/77		08:23	5.72	.13	93	541	CODE 24
12/14/77		08:40	16.87	.28	94	542	CODE 24
12/14/77		08:43	2.72	.13	95	543	CODE 27
12/14/77		08:44	.87	.25	96	544	CODE 24
12/14/77		08:54	9.65	.13	97	545	CODE 18
12/14/77		08:56	1.87	.25	98	546	CODE 24
12/14/77		08:59	2.75	.28	99	547	CODE 24
12/14/77		09:02	2.72	.25	100	548	CODE 18
12/14/77		09:05	2.75	.20	101	549	CODE 24
12/14/77		09:17	11.80	.25	102	550	CODE 17
12/14/77		09:18	.75	.50	103	551	CODE 23
12/14/77		09:20	1.50	3.43	104	552	CODE 29
12/14/77		09:26	2.57	.20	105	553	CODE 24
12/14/77		09:27	.80	.13	106	554	CODE 24
12/14/77		09:35	7.87	.13	107	555	CODE 18
12/14/77		09:50	14.87	.20	108	556	CODE 03
12/14/77		09:53	2.67	.20	109	557	CODE 24
12/14/77		09:54	.80	2.10	110	558	CODE 27
12/14/77		10:16	4.90	.28	111	559	CODE 24
12/14/77		10:17	.72	.33	112	560	CODE 27
12/14/77		10:21	3.67	.20	113	561	CODE 18

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		10:30	8.80	.33	114	562	CODE 17
12/14/77		10:45	14.67	.28	115	563	CODE 25
12/14/77		10:48	2.72	.13	116	564	CODE 24
12/14/77		10:53	4.87	1.00	117	565	CODE 27
12/14/77		10:54	0.00	.50	118	566	COOF 17
12/14/77		10:55	.50	.28	119	567	COOF 24
12/14/77		10:57	1.72	.28	120	568	CODF 27
12/14/77		11:02	4.72	.53	121	569	CODF 12
12/14/77		11:43	40.47	.25	122	570	CODF 12
12/14/77		12:38	24.75	.43	123	571	CODF 27
12/14/77		12:43	4.57	.13	124	572	CODF 27
12/14/77		12:50	6.87	.28	125	573	CODF 24
12/14/77		12:57	6.72	1.00	126	574	CODE 12
12/14/77		12:59	1.00	.43	127	575	CODE 03
12/14/77		13:01	1.57	.40	128	576	COOE 28
12/14/77		13:02	.60	1.05	129	577	CODF 17
12/14/77		13:05	1.95	.20	130	578	CODF 24
12/14/77		13:06	.80	.20	131	579	COOF 24
12/14/77		13:07	.80	.13	132	580	CODE 24
12/14/77		13:14	6.87	.40	133	581	COOF 12
12/14/77		13:15	.60	.20	134	582	CODE 02
12/14/77		13:21	5.80	.20	135	583	COOF 24
12/14/77		13:26	4.80	.20	136	584	CODE 24
12/14/77		13:43	16.80	.25	137	585	COOF 24
12/14/77		13:50	6.75	1.28	138	586	CODE 11
12/14/77		14:17	10.72	.28	139	587	CODF 27
12/14/77		14:30	12.72	.50	140	588	CODE 12
12/14/77		14:39	8.50	.25	141	589	COOF 12
12/14/77		14:47	7.75	.25	142	590	CODE 24
12/14/77		14:54	6.75	.13	143	591	CODF 24
12/14/77		15:07	12.87	.20	144	592	CODE 24
12/14/77		15:08	.80	.28	145	593	COOF 02
12/14/77		15:10	1.72	.13	146	594	CODF 24
12/14/77		15:16	5.87	.13	147	595	COOF 24
12/14/77		15:23	2.73	.33	148	596	CODE 29
12/14/77		15:24	.67	4.50	149	597	CODF 29
12/14/77		15:42	13.50	.20	150	598	CODF 27
12/14/77		15:49	6.80	.13	151	599	COOF 24
12/14/77		15:50	.87	.13	152	600	CODF 24
12/14/77			END OF SHIFT AT 15:54				

MOOULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

OATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77	08:00						
12/15/77		08:02	5.87	.53	153	601	CODF 24
12/15/77		08:09	6.47	.20	154	602	COOF 24
12/15/77		08:10	.80	.20	155	603	COOF 24
12/15/77		08:17	5.47	.28	156	604	COOF 24
12/15/77		08:31	13.72	.28	157	605	CODF 07
12/15/77		08:36	4.72	.13	158	606	COOF 24
12/15/77		08:38	1.87	.25	159	607	CODF 27
12/15/77		08:43	4.75	.20	160	608	COOF 24
12/15/77		08:55	11.80	.25	161	609	CODF 02
12/15/77		08:57	1.75	.28	162	610	CODF 27
12/15/77		09:14	16.38	.25	163	611	COOF 24
12/15/77		09:16	1.75	1.20	164	612	CODF 12
12/15/77		09:22	4.80	.20	165	613	CODF 27
12/15/77		09:26	3.80	.28	166	614	COOF 02
12/15/77		10:17	35.43	.43	167	615	COOF 12
12/15/77		10:24	6.57	.20	168	616	COOF 24
12/15/77		10:27	2.80	3.20	169	617	CODF 11
12/15/77		10:31	.80	.25	170	618	CODF 12
12/15/77		10:32	.75	.25	171	619	CODF 27
12/15/77		10:34	1.75	2.00	172	620	CODF 15
12/15/77		10:38	2.00	.28	173	621	CODF 24
12/15/77		10:39	.72	.20	174	622	COOF 27
12/15/77		10:41	1.80	.13	175	623	CODF 24
12/15/77		10:58	16.87	.25	176	624	CODF 12
12/15/77		11:03	4.75	.40	177	625	CODF 03
12/15/77		11:05	1.60	.13	178	626	COOF 02
12/15/77		11:06	.87	1.13	179	627	CODF 11
12/15/77		11:08	.87	.20	180	628	CODF 24
12/15/77		11:13	4.80	.25	181	629	CODF 24
12/15/77		11:17	3.75	.20	182	630	COOF 24
12/15/77		12:52	64.80	.25	183	631	COOF 12
12/15/77		13:08	15.75	.28	184	632	COOF 24
12/15/77		13:15	6.72	.40	185	633	COOF 24
12/15/77		13:17	1.60	.13	186	634	COOF 27
12/15/77		13:18	.87	.40	187	635	COOF 02
12/15/77		13:19	.60	.33	188	636	CODF 12
12/15/77		13:22	2.67	.25	189	637	CODF 24
12/15/77		13:23	.75	.13	190	638	FALSE LIGHT
12/15/77		13:24	.87	.13	191	639	CODF 02

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		13:28	3.87	.28	192	640	CODE 12
12/15/77		13:31	2.72	.13	193	641	CODE 24
12/15/77		13:36	4.87	.53	194	642	CODE 12
12/15/77		13:40	3.47	.43	195	643	CODE 25
12/15/77		13:47	6.57	.20	196	644	CODE 24
12/15/77		13:53	5.80	.25	197	645	CODE 12
12/15/77		13:58	4.75	.33	198	646	CODE 24
12/15/77		14:17	3.67	.28	199	647	CODE 27
12/15/77		14:30	12.72	.28	200	648	CODE 12
12/15/77		14:31	.72	.20	201	649	CODE 24
12/15/77		14:42	10.40	.13	202	650	CODE 24
12/15/77		14:43	.87	.33	203	651	CODE 12
12/15/77		14:44	.67	.33	204	652	CODE 12
12/15/77		14:45	.67	.43	205	653	CODE 12
12/15/77		14:48	2.57	.13	206	654	CODE 27
12/15/77		14:53	4.87	.20	207	655	CODE 12
12/15/77		14:54	.80	.20	208	656	CODE 12
12/15/77		15:12	17.80	.43	209	657	CODE 07
12/15/77		15:17	4.57	.20	210	658	CODE 12
12/15/77		15:18	.80	.20	211	659	CODE 24
12/15/77		15:31	12.80	.13	212	660	CODE 27
12/15/77		15:36	4.87	.33	213	661	CODE 24
12/15/77		15:37	.67	.40	214	662	CODE 29
12/15/77		15:42	4.60	.40	215	663	CODE 27
12/15/77			END OF SHIFT AT 15:53				
12/16/77	08:00						
12/16/77		08:07	17.35	.20	216	664	CODE 24
12/16/77		08:17	9.80	.20	217	665	CODE 24
12/16/77		08:33	15.80	.33	218	666	CODE 24
12/16/77		08:34	.67	.28	219	667	CODE 12
12/16/77		08:35	.72	.25	220	668	CODE 24
12/16/77		08:37	1.75	.20	221	669	CODE 24
12/16/77		08:55	17.80	.25	222	670	CODE 24
12/16/77		08:59	3.75	.25	223	671	CODE 02
12/16/77		09:10	10.75	.20	224	672	CODE 24
12/16/77		09:17	6.80	.28	225	673	CODE 12
12/16/77		10:19	26.72	.28	226	674	CODE 12
12/16/77		10:42	22.72	.20	227	675	CODE 24
12/16/77		10:46	3.80	.13	228	676	CODE 24

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		11:00	13.87	.20	229	677	CODE 24
12/16/77		11:02	1.80	.20	230	678	CODE 24
12/16/77		11:04	1.80	.40	231	679	CODE 03
12/16/77		11:05	.60	.28	232	680	CODE 03
12/16/77		11:12	6.72	.13	233	681	CODE 24
12/16/77		11:16	3.87	.20	234	682	CODE 24
12/16/77		11:32	15.80	.20	235	683	CODE 24
12/16/77		11:46	13.80	.25	236	684	CODE 27
12/16/77		12:31	14.75	9.33	237	685	CODE 11
12/16/77		12:54	13.67	.20	238	686	CODE 24
12/16/77		13:00	5.80	.20	239	687	CODE 24
12/16/77		13:08	7.80	.33	240	688	CODE 24
12/16/77		13:10	1.67	.25	241	689	CODE 24
12/16/77		13:12	.65	1.00	242	690	CODE 17
12/16/77		13:17	4.00	.13	243	691	CODE 27
12/16/77		13:18	.87	.20	244	692	CODE 24
12/16/77		13:23	4.80	.20	245	693	CODE 24
12/16/77		13:30	6.55	.25	246	694	CODE 12
12/16/77		13:35	4.75	.20	247	695	CODE 02
12/16/77		13:41	5.80	.25	248	696	CODE 24
12/16/77		13:49	7.75	.20	249	697	CODE 24
12/16/77		14:23	18.80	.28	250	698	CODE 27
12/16/77		14:26	2.72	.25	251	699	CODE 27
12/16/77		14:49	22.75	.28	252	700	CODE 12
12/16/77			END OF SHIFT AT 14:50				

MODULE 3 = FUZE ASSEMBLY STATION 5 STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:02						
11/28/77		08:03	1.00	.40	1	701	CODE 12
11/28/77		08:07	3.60	.50	2	702	CODE 21
11/28/77		08:11	3.50	.28	3	703	CODE 12
11/28/77		08:12	.72	.25	4	704	CODE 18
11/28/77		08:15	2.75	.28	5	705	CODE 12
11/28/77		08:17	1.72	.25	6	706	CODE 02
11/28/77		08:18	.75	.75	7	707	CODE 25
11/28/77		08:19	.25	.58	8	708	CODE 12
11/28/77		08:20	.42	.83	9	709	CODE 12
11/28/77		08:30	9.17	.20	10	710	CODE 18
11/28/77		08:31	.80	.25	11	711	CODE 24
11/28/77		08:34	2.75	.20	12	712	CODE 24
11/28/77		08:45	10.80	.25	13	713	CODE 27
11/28/77		08:47	1.75	5.63	14	714	CODE 11
11/28/77		09:04	11.37	1.05	15	715	CODE 29
11/28/77		09:40	34.95	.25	16	716	CODE 27
11/28/77		10:26	30.75	.93	17	717	CODE 25
11/28/77		10:28	1.07	.50	18	718	CODE 24
11/28/77		10:30	1.50	.25	19	719	CODE 12
11/28/77		10:31	.75	.20	20	720	CODE 24
11/28/77		10:36	4.80	.50	21	721	CODE 27
11/28/77		10:37	.50	.43	22	722	CODE 24
11/28/77		10:40	2.57	.20	23	723	CODE 24
11/28/77		10:42	1.80	.33	24	724	CODE 18
11/28/77		10:50	7.67	.28	25	725	CODE 18
11/28/77		10:55	4.72	.33	26	726	CODE 24
11/28/77		10:56	.67	.25	27	727	CODE 24
11/28/77		11:10	13.75	.43	28	728	CODE 12
11/28/77		11:11	.57	.25	29	729	CODE 12
11/28/77		11:12	.75	.40	30	730	CODE 18
11/28/77		11:16	3.60	.63	31	731	CODE 25
11/28/77		11:22	5.37	.28	32	732	CODE 12
11/28/77		11:35	11.62	.28	33	733	CODE 24
11/28/77		11:42	6.72	.33	34	734	CODE 24
11/28/77		11:46	3.67	.53	35	735	CODE 25
11/28/77		11:48	1.47	.28	36	736	CODE 24
11/28/77		12:34	45.43	1.05	37	737	CODE 12
11/28/77		12:36	.95	.33	38	738	CODE 24
11/28/77		12:43	6.67	7.50	39	739	CODE 11

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77		12:55	4.50	.63	40	740	CODE 12
11/28/77		12:57	1.37	.25	41	741	CODE 18
11/28/77		13:00	2.75	.28	42	742	CODE 18
11/28/77		13:01	.72	.50	43	743	CODE 25
11/28/77		13:16	14.50	.25	44	744	CODE 24
11/28/77		13:17	.75	.33	45	745	CODE 02
11/28/77		13:20	2.67	.25	46	746	CODE 12
11/28/77		13:23	2.75	.53	47	747	CODE 25
11/28/77		13:26	2.47	.58	48	748	CODE 24
11/28/77		13:46	14.98	.28	49	749	CODE 24
11/28/77		13:47	.72	.33	50	750	CODE 24
11/28/77		13:52	4.67	.28	51	751	CODE 12
11/28/77		14:17	8.72	.20	52	752	CODE 12
11/28/77		14:23	5.80	.50	53	753	CODE 24
11/28/77		14:26	2.50	1.05	54	754	CODE 25
11/28/77		14:30	2.95	3.80	55	755	CODE 21
11/28/77		14:34	.20	5.28	56	756	BROKEN SPRING ON MAGNET
11/28/77		14:40	.72	.53	57	757	CODE 18
11/28/77		14:42	1.47	.40	58	758	CODE 27
11/28/77		14:45	2.60	.33	59	759	CODE 17
11/28/77		14:47	1.67	.83	60	760	CODE 25
11/28/77		14:49	1.17	.68	61	761	CODE 25
11/28/77		14:55	5.32	.25	62	762	CODE 18
11/28/77		14:57	1.75	.28	63	763	CODE 24
11/28/77		14:58	.72	.28	64	764	CODE 18
11/28/77		15:06	7.72	.40	65	765	CODE 18
11/28/77		15:10	3.60	.33	66	766	CODE 24
11/28/77		15:12	1.67	.68	67	767	CODE 25
11/28/77		15:16	3.32	.25	68	768	CODE 12
11/28/77		15:18	1.75	.25	69	769	CODE 24
11/28/77		15:20	1.75	.40	70	770	CODE 18
11/28/77		15:30	9.60	.63	71	771	CODE 12
11/28/77		15:35	4.37	.33	72	772	CODE 12
11/28/77		15:36	.67	.40	73	773	CODE 24
11/28/77		15:37	.60	.43	74	774	CODE 18
11/28/77		15:40	2.57	.63	75	775	CODE 17
11/28/77		15:45	4.37	.43	76	776	CODE 18
11/28/77			END OF SHIFT AT 15:51				
11/29/77	08:00						

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77		08:05	6.57	.80	77	777	C00F 12
11/29/77		08:06	.20	.43	78	778	C00E 12
11/29/77		08:13	6.57	1.25	79	779	C00F 25
11/29/77		08:15	.75	1.68	80	780	C00E 16
11/29/77		08:18	1.32	.88	81	781	C00F 25
11/29/77		08:21	2.12	1.28	82	782	C00F 25
11/29/77		08:45	9.12	.20	83	783	CODE 18
11/29/77		08:50	4.80	.28	84	784	C00E 24
11/29/77		08:52	1.72	.25	85	785	C00F 24
11/29/77		09:16	23.75	1.53	86	786	C00F 12
11/29/77		09:18	.47	.68	87	787	C00F 12
11/29/77		09:27	8.07	.25	88	788	C00E 18
11/29/77		09:36	8.12	.25	89	789	C00E 24
11/29/77		09:38	1.75	.40	90	790	C00F 17
11/29/77		09:50	11.60	.28	91	791	CODE 24
11/29/77		09:51	.72	.20	92	792	CODE 18
11/29/77		10:21	14.80	.20	93	793	C00F 24
11/29/77		10:36	14.80	.33	94	794	C00E 24
11/29/77		10:53	16.67	.28	95	795	CODE 24
11/29/77		10:57	3.72	.28	96	796	C00F 12
11/29/77		11:05	6.18	.28	97	797	C00E 24
11/29/77		11:19	13.72	.40	98	798	CODF 27
11/29/77		11:20	.60	.50	99	799	C00F 04
11/29/77		11:21	.50	2.10	100	800	C00E 04
11/29/77		11:24	.90	1.05	101	801	C00E 18
11/29/77		11:27	1.95	.40	102	802	C00F 18
11/29/77		11:34	6.60	.25	103	803	C00F 24
11/29/77		12:37	32.75	.20	104	804	CODF 24
11/29/77		12:41	3.80	.25	105	805	C00E 24
11/29/77		12:44	2.75	.20	106	806	CODE 24
11/29/77		12:52	7.80	.68	107	807	C00F 24
11/29/77		12:57	4.32	.93	108	808	C00E 24
11/29/77		13:00	2.07	.20	109	809	CODF 27
11/29/77		13:07	6.80	.33	110	810	CODE 24
11/29/77		13:08	.67	.58	111	811	C00E 12
11/29/77		13:14	5.42	.68	112	812	CODE 24
11/29/77		13:29	14.32	.20	113	813	C00E 18
11/29/77		13:34	4.80	.28	114	814	C00F 03
11/29/77		13:46	11.72	.28	115	815	CODE 12
11/29/77		13:48	1.72	.28	116	816	CODF 12

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77		14:23	19.72	.40	117	817	CODE 12
11/29/77		14:25	1.60	.43	118	818	CODE 11
11/29/77		14:30	4.57	.50	119	819	CODE 11
11/29/77		14:40	9.50	.28	120	820	CODE 18
11/29/77		14:44	3.72	.20	121	821	CODE 12
11/29/77		14:45	.80	.40	122	822	CODE 23
11/29/77		14:46	.60	3.88	123	823	CODE 23
11/29/77		14:52	2.12	.28	124	824	CODE 12
11/29/77		14:53	.72	.20	125	825	CODE 24
11/29/77		14:55	1.80	.20	126	826	CODE 12
11/29/77		14:58	2.80	.75	127	827	CODE 25
11/29/77		15:03	4.25	.28	128	828	CODE 18
11/29/77		15:12	8.72	.25	129	829	CODE 27
11/29/77		15:13	.75	.28	130	830	CODE 24
11/29/77		15:15	1.72	.20	131	831	CODE 12
11/29/77		15:19	3.80	.28	132	832	CODE 24
11/29/77		15:20	.72	.53	133	833	CODE 12
11/29/77		15:26	5.47	.88	134	834	CODE 12
11/29/77		15:32	5.12	.28	135	835	CODE 27
11/29/77		15:33	.72	.28	136	836	CODE 24
11/29/77		15:36	2.72	.25	137	837	CODE 24
11/29/77		15:37	.75	.20	138	838	CODE 18
11/29/77		15:42	4.80	.25	139	839	CODE 12
11/29/77			END OF SHIFT AT 15:49				
11/30/77	08:37						
11/30/77		08:38	7.75	7.10	140	840	CODE 04
11/30/77		08:46	.90	.28	141	841	CODE 24
11/30/77		08:47	.72	.50	142	842	SAFETY SWITCH ON
11/30/77		08:48	.50	.80	143	843	CODE 02
11/30/77		08:49	.20	.53	144	844	CODE 12
11/30/77		08:55	5.47	4.20	145	845	CODE 11
11/30/77		08:60	.80	.83	146	846	CODE 24
11/30/77		09:03	2.17	.20	147	847	CODE 27
11/30/77		09:07	3.80	.43	148	848	CODE 24
11/30/77		09:08	.57	.28	149	849	CODE 24
11/30/77		09:09	.72	.58	150	850	CODE 11
11/30/77		09:10	.42	2.33	151	851	CODE 11
11/30/77		09:13	.67	.83	152	852	CODE 12
11/30/77		09:16	2.17	.88	153	853	CODE 12

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		09:17	.12	4.43	154	854	CODE 29
11/30/77		09:26	4.57	.25	155	855	CODE 24
11/30/77		09:31	4.75	.25	156	856	CODE 12
11/30/77		09:47	9.70	.33	157	857	CODE 24
11/30/77		09:49	1.67	.63	158	858	CODE 25
11/30/77		09:51	1.37	.50	159	859	CODE 03
11/30/77		10:21	14.50	.25	160	860	CODE 12
11/30/77		10:22	.75	.88	161	861	CODE 24
11/30/77		10:27	4.12	.28	162	862	CODE 18
11/30/77		10:42	7.32	3.83	163	863	CODE 29
11/30/77		10:47	1.17	.28	164	864	CODE 18
11/30/77		10:56	1.92	.25	165	865	CODE 24
11/30/77		11:01	4.75	.40	166	866	CODE 11
11/30/77		11:02	.60	.58	167	867	CHAIN OUT OF TIME ADJUST
11/30/77		11:04	1.42	2.10	168	868	CODE 12
11/30/77		11:10	3.90	.68	169	869	CODE 12
11/30/77		11:12	1.32	.33	170	870	CODE 12
11/30/77		11:29	16.67	.40	171	871	CODE 12
11/30/77		11:32	2.60	.25	172	872	CODE 12
11/30/77		11:33	.75	.20	173	873	CODE 12
11/30/77		11:36	2.80	.50	174	874	CODE 18
11/30/77		11:37	.50	.43	175	875	CODE 12
11/30/77		11:38	.57	.33	176	876	CODE 24
11/30/77		11:40	1.67	.58	177	877	CODE 25
11/30/77		11:43	2.42	.25	178	878	CODE 18
11/30/77		11:47	3.75	.50	179	879	ADJUST PRESSURE ON HYDRAULIC PUMP
11/30/77		11:49	1.50	.25	180	880	CODE 18
11/30/77		12:37	17.75	.20	181	881	CODE 24
11/30/77		12:39	1.80	.25	182	882	CODE 18
11/30/77		12:42	2.75	.20	183	883	CODE 27
11/30/77		12:45	2.80	.20	184	884	CODE 24
11/30/77		12:47	1.80	.25	185	885	CODE 24
11/30/77		12:48	.75	.28	186	886	CODE 18
11/30/77		12:49	.72	.43	187	887	CODE 29
11/30/77		12:52	2.57	.40	188	888	CODE 25
11/30/77		12:57	4.60	.43	189	889	CODE 24
11/30/77		13:00	2.57	1.05	190	890	CODE 25
11/30/77		13:13	11.95	.43	191	891	CODE 12
11/30/77		13:14	.57	1.05	192	892	CODE 12
11/30/77		13:16	.95	.33	193	893	CODE 18

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		13:17	.67	2.10	194	894	CODE 02
11/30/77		13:30	1.62	.25	195	895	CODE 18
11/30/77		13:31	.75	.50	196	896	CODE 12
11/30/77		13:33	1.50	.33	197	897	CODE 12
11/30/77		13:35	1.67	.20	198	898	CODE 18
11/30/77		13:38	2.80	1.40	199	899	CODE 25
11/30/77		13:46	1.02	.43	200	900	RESET SWITCH + REPLACE BODY
11/30/77		13:48	1.57	.20	201	901	CODE 18
11/30/77		13:50	1.80	1.43	202	902	CODE 12
11/30/77		13:57	5.57	.25	203	903	CODE 12
11/30/77		14:23	10.75	.25	204	904	CODE 12
11/30/77		14:25	1.75	.20	205	905	CODE 18
11/30/77		14:26	.80	.25	206	906	CODE 12
11/30/77		14:28	1.75	.28	207	907	CODE 24
11/30/77		14:31	2.72	.25	208	908	CODE 24
11/30/77		14:32	.75	.20	209	909	CODE 18
11/30/77		14:33	.80	5.28	210	910	CODE 16
11/30/77		14:39	.72	.83	211	911	CODE 02
11/30/77		14:43	3.17	.28	212	912	CODE 02
11/30/77		14:45	1.72	.80	213	913	CODE 02
11/30/77		14:46	.20	1.20	214	914	CODE 12
11/30/77		14:48	.80	.58	215	915	CODE 12
11/30/77		14:50	1.42	.43	216	916	CODE 05
11/30/77		14:51	.57	1.53	217	917	CODE 02
11/30/77		14:56	3.47	.33	218	918	CODE 02
11/30/77		14:58	1.67	.33	219	919	CODE 18
11/30/77		14:59	.67	2.10	220	920	CODE 11
11/30/77		15:02	.90	.53	221	921	CODE 02
11/30/77		15:03	.47	.33	222	922	CODE 02
11/30/77		15:05	1.67	.63	223	923	CODE 12
11/30/77		15:07	1.37	.40	224	924	CODE 24
11/30/77		15:27	3.55	1.00	225	925	CODE 12
11/30/77		15:28	0.00	.28	226	926	CODE 24
11/30/77		15:29	.72	1.05	227	927	CODE 12
11/30/77		15:31	.95	.53	228	928	CODE 18
11/30/77		15:33	1.47	.68	229	929	CODE 12
11/30/77		15:34	.32	.33	230	930	CODE 02
11/30/77		15:36	1.67	.75	231	931	CODE 02
11/30/77		15:37	.25	.28	232	932	CODE 24
11/30/77		15:38	.72	.25	233	933	CODE 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		15:39	.75	1.10	234	934	CODE 12
11/30/77		15:41	.90	.28	235	935	CODE 24
11/30/77		15:42	.72	.50	236	936	CODE 18
11/30/77		15:43	.50	.63	237	937	CODE 02
11/30/77		15:44	.37	1.05	238	938	CODE 12
11/30/77		15:46	.95	.28	239	939	CODE 24
11/30/77		15:47	.72	.40	240	940	CODE 24
11/30/77		15:48	.60	.33	241	941	CODE 24
11/30/77		15:49	.67	.53	242	942	CODE 25
11/30/77		15:50	.47	.28	243	943	CODE 24
11/30/77		15:51	.72	.50	244	944	CODE 02
11/30/77		15:52	.50	.43	245	945	CODE 12
11/30/77			END OF SHIFT AT 15:53				
12/01/77	08:00						
12/01/77		08:02	2.57	1.10	246	946	CODE 02
12/01/77		08:04	.90	.80	247	947	CODE 12
12/01/77		08:05	.20	1.20	248	948	CODE 25
12/01/77		08:15	2.97	1.50	249	949	CODE 11
12/01/77		08:17	.50	.93	250	950	CODE 04
12/01/77		08:18	.07	.88	251	951	CODE 02
12/01/77		08:19	.12	6.43	252	952	CODE 29
12/01/77		08:28	2.57	.20	253	953	CODE 24
12/01/77		08:29	.80	.63	254	954	CODE 12
12/01/77		08:35	5.37	1.05	255	955	CODE 12
12/01/77		08:39	2.95	.75	256	956	CONV CHAIN OUT OF LINE
12/01/77		08:42	2.25	1.83	257	957	CONV CHAIN OUT OF LINE
12/01/77		08:49	5.17	.58	258	958	CODE 12
12/01/77		08:50	.42	.63	259	959	CODE 12
12/01/77		08:53	2.37	.20	260	960	CODE 24
12/01/77		08:55	1.80	.80	261	961	CODE 12
12/01/77		08:57	1.20	1.10	262	962	CODE 12
12/01/77		08:59	.90	.43	263	963	CODE 12
12/01/77		09:01	1.57	.58	264	964	CODE 18
12/01/77		09:02	.42	.75	265	965	CODE 12
12/01/77		09:06	3.25	.58	266	966	CODE 25
12/01/77		09:07	.42	.33	267	967	CODE 24
12/01/77		09:11	3.67	.20	268	968	CODE 27
12/01/77		09:13	1.80	.63	269	969	CODE 25
12/01/77		09:15	1.37	.43	270	970	CODE 02

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		09:24	8.57	.58	271	971	CODE 12
12/01/77		09:28	3.42	.20	272	972	CODE 18
12/01/77		09:35	6.80	.40	273	973	CODE 28
12/01/77		09:38	2.60	.25	274	974	CODE 18
12/01/77		09:39	.75	.53	275	975	ALL STA BACK - RESET SWITCH
12/01/77		09:40	.47	.33	276	976	CODE 24
12/01/77		09:50	9.67	.20	277	977	CODE 24
12/01/77		10:17	11.80	2.13	278	978	CODE 11
12/01/77		10:31	11.87	1.13	279	979	CODE 25
12/01/77		10:33	.87	.25	280	980	CODE 12
12/01/77		10:38	4.75	.33	281	981	CODE 12
12/01/77		10:47	8.67	.20	282	982	CODE 27
12/01/77		10:56	8.80	1.58	283	983	CODE 11
12/01/77		11:01	3.42	3.05	284	984	CODE 24
12/01/77		11:05	.95	.20	285	985	CODE 27
12/01/77		11:10	4.80	.25	286	986	CODE 02
12/01/77		11:11	.75	.25	287	987	CODE 12
12/01/77		11:15	3.75	1.20	288	988	CODE 12
12/01/77		11:17	.80	.25	289	989	CODE 24
12/01/77		11:18	.75	.68	290	990	CODE 12
12/01/77		11:19	.32	.43	291	991	CODE 12
12/01/77		11:22	2.57	.33	292	992	CODE 12
12/01/77		11:23	.67	.25	293	993	CODE 12
12/01/77		11:24	.75	.40	294	994	CODE 04
12/01/77		11:25	.60	.58	295	995	CODE 12
12/01/77		11:26	.42	.28	296	996	CODE 12
12/01/77		11:34	7.72	.33	297	997	CODE 04
12/01/77		11:36	1.67	.25	298	998	CODE 04
12/01/77		11:42	5.75	.80	299	999	CODE 11
12/01/77		11:43	.20	.25	300	1000	CODE 12
12/01/77		11:46	2.75	.33	301	1001	CODE 24
12/01/77		11:47	.67	1.53	302	1002	CODE 16
12/01/77		11:49	.47	.33	303	1003	CODE 12
12/01/77		12:34	14.67	1.50	304	1004	CODE 03
12/01/77		12:36	.50	.40	305	1005	CODE 18
12/01/77		12:38	1.60	.43	306	1006	CODE 04
12/01/77		12:47	8.57	.33	307	1007	CODE 24
12/01/77		12:48	.67	.75	308	1008	CODE 12
12/01/77		12:52	3.25	.80	309	1009	CODE 01
12/01/77		12:57	4.20	.40	310	1010	CODE 02

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		13:02	4.60	.28	311	1011	COOF 24
12/01/77		13:07	4.72	.53	312	1012	COOF 25
12/01/77		13:08	.47	1.20	313	1013	CODE 24
12/01/77		13:14	4.80	1.68	314	1014	CODE 17
12/01/77		13:16	.32	.75	315	1015	COOF 17
12/01/77		13:19	2.25	.50	316	1016	CODF 18
12/01/77		13:20	.50	.20	317	1017	CODF 24
12/01/77		13:23	2.80	2.10	318	1018	COOF 12
12/01/77		13:26	.90	.83	319	1019	CODF 11
12/01/77		13:28	1.17	1.20	320	1020	COOF 12
12/01/77		13:31	1.80	.53	321	1021	COOF 24
12/01/77		13:32	.47	.53	322	1022	COOF 12
12/01/77		13:33	.47	1.40	323	1023	CODF 11
12/01/77		13:35	.60	1.13	324	1024	CODF 12
12/01/77		13:37	.87	.25	325	1025	CODF 12
12/01/77		14:15	3.75	7.25	326	1026	COOE 11
12/01/77		14:23	.75	.28	327	1027	CODF 24
12/01/77		14:24	.72	.83	328	1028	COOE 02
12/01/77		14:27	2.17	.28	329	1029	CODE 24
12/01/77		14:28	.72	.58	330	1030	COOF 12
12/01/77		14:29	.42	4.33	331	1031	CODE 02
12/01/77		14:34	.67	.28	332	1032	COOE 24
12/01/77		14:35	.72	.20	333	1033	CODF 24
12/01/77		14:37	1.80	.25	334	1034	COOF 12
12/01/77		14:38	.75	.25	335	1035	COOF 24
12/01/77		14:39	.75	.28	336	1036	COOE 24
12/01/77		14:40	.72	.75	337	1037	COOF 11
12/01/77		14:41	.25	2.28	338	1038	CODF 24
12/01/77		14:44	.72	1.05	339	1039	CODF 04
12/01/77		14:47	1.95	.25	340	1040	COOF 27
12/01/77		14:48	.75	.25	341	1041	COOE 24
12/01/77		14:49	.75	.25	342	1042	COOF 12
12/01/77		14:50	.75	.20	343	1043	CODE 24
12/01/77		14:51	.80	.25	344	1044	COOF 24
12/01/77		14:53	1.75	.28	345	1045	CODF 24
12/01/77		14:55	1.72	.33	346	1046	CODE 24
12/01/77		14:56	.67	.58	347	1047	COOF 24
12/01/77		14:57	.42	.20	348	1048	CODE 18
12/01/77		14:58	.80	.33	349	1049	CODE 24
12/01/77		14:59	.67	1.33	350	1050	CODF 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		15:01	.67	.93	351	1051	CODE 24
12/01/77		15:02	.07	.25	352	1052	CODE 12
12/01/77		15:03	.75	1.75	353	1053	CODE 11
12/01/77		15:06	1.25	2.58	354	1054	CODE 11
12/01/77		15:09	.42	.93	355	1055	CODE 18
12/01/77		15:10	.07	1.50	356	1056	CODE 11
12/01/77		15:13	1.50	3.20	357	1057	CODE 11
12/01/77		15:17	.80	.40	358	1058	CODE 11
12/01/77		15:18	.60	.50	359	1059	CODE 11
12/01/77		15:21	2.50	.25	360	1060	CODE 18
12/01/77		15:26	4.75	.20	361	1061	CODE 12
12/01/77		15:34	7.80	.25	362	1062	CODE 18
12/01/77		15:36	1.75	.28	363	1063	CODE 04
12/01/77		15:38	1.72	.25	364	1064	CODE 24
12/01/77		15:42	3.75	.28	365	1065	FUZE KNOCKED OFF BODY
12/01/77		15:43	.72	.20	366	1066	CODE 24
12/01/77		15:45	1.80	.25	367	1067	CODE 24
12/01/77		15:46	.75	.25	368	1068	CODE 16
12/01/77		15:47	.75	.28	369	1069	CODE 24
12/01/77		15:48	.72	.33	370	1070	CODE 24
12/01/77		15:49	.67	.25	371	1071	CODE 24
12/01/77		15:51	1.75	.20	372	1072	CODE 12
12/01/77		15:52	.80	.25	373	1073	CODE 12
12/01/77			END OF SHIFT AT 15:53				
12/02/77	08:00						
12/02/77		08:03	3.75	.33	374	1074	CODE 12
12/02/77		08:07	3.67	.25	375	1075	CODE 12
12/02/77		08:08	.75	7.40	376	1076	CODE 16
12/02/77		08:19	3.60	.75	377	1077	CODE 12
12/02/77		08:20	.25	.40	378	1078	CODE 18
12/02/77		08:22	1.60	8.33	379	1079	CODE 16
12/02/77		08:33	2.67	.50	380	1080	CODE 18
12/02/77		08:36	2.50	6.28	381	1081	CODE 16
12/02/77		08:43	.72	1.43	382	1082	CODE 25
12/02/77		08:46	1.57	.68	383	1083	CODE 18
12/02/77		08:49	2.32	.25	384	1084	CODE 18
12/02/77		08:53	3.75	.20	385	1085	CODE 12
12/02/77		08:56	2.80	.33	386	1086	CODE 12
12/02/77		09:01	4.67	.25	387	1087	CODE 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		09:03	1.75	.75	388	1088	CODE 04
12/02/77		09:04	.25	3.93	389	1089	CODE 29
12/02/77		09:09	1.07	.20	390	1090	CODE 18
12/02/77		09:14	4.80	1.58	391	1091	BODY CAUGHT ON WINDER
12/02/77		09:21	5.42	7.43	392	1092	CODE 16
12/02/77		09:29	.57	.28	393	1093	FUZE KNOCKED OFF BODY
12/02/77		10:16	1.32	16.05	394	1094	CODE 29
12/02/77		10:37	4.95	.33	395	1095	CODE 04
12/02/77		10:42	4.67	.93	396	1096	CODE 12
12/02/77		10:43	.07	.20	397	1097	CODE 12
12/02/77		10:45	1.80	.28	398	1098	CODE 04
12/02/77		10:46	.72	.33	399	1099	CODE 11
12/02/77		10:47	.67	.68	400	1100	CODE 11
12/02/77		10:48	.32	.28	401	1101	CODE 12
12/02/77		10:49	.72	.63	402	1102	CODE 11
12/02/77		10:51	1.37	1.53	403	1103	CODE 11
12/02/77		11:03	10.47	.93	404	1104	CODE 11
12/02/77		11:04	.07	.43	405	1105	CODE 27
12/02/77		11:05	.57	.20	406	1106	CODE 12
12/02/77		11:06	.80	2.40	407	1107	CODE 29
12/02/77		11:11	2.60	.33	408	1108	CODE 12
12/02/77		11:16	4.67	.50	409	1109	CODE 11
12/02/77		11:21	4.50	.20	410	1110	CODE 02
12/02/77		11:22	.80	.25	411	1111	CODE 12
12/02/77		11:26	3.75	4.50	412	1112	CODE 16
12/02/77		11:34	3.50	.28	413	1113	CODE 24
12/02/77		11:38	3.72	.40	414	1114	CODE 12
12/02/77		11:40	1.60	.83	415	1115	CODE 25
12/02/77		11:42	1.17	.20	416	1116	CODE 12
12/02/77		11:50	7.80	.28	417	1117	CODE 24
12/02/77		11:55	4.72	.25	418	1118	CODE 12
12/02/77		12:41	14.65	.68	419	1119	CODE 12
12/02/77		12:43	1.32	.33	420	1120	CODE 02
12/02/77		13:44	3.08	.53	421	1121	CODE 11
12/02/77		13:46	1.47	.75	422	1122	CODE 04
12/02/77		13:48	1.25	.63	423	1123	CODE 11
12/02/77		13:52	3.37	.33	424	1124	CODE 24
12/02/77		13:54	1.67	.20	425	1125	CODE 12
12/02/77		13:57	2.80	.33	426	1126	CODE 02
12/02/77		14:18	5.67	.25	427	1127	CODE 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		14:22	3.75	.83	428	1128	COOF 12
12/02/77		14:24	1.17	.68	429	1129	COOF 25
12/02/77		14:26	1.32	.28	430	1130	COOF 12
12/02/77		14:29	2.72	.80	431	1131	COOF 16
12/02/77		14:30	.20	.43	432	1132	COOF 05
12/02/77		14:31	.57	1.53	433	1133	CODF 11
12/02/77		14:33	.47	.20	434	1134	COOF 12
12/02/77		14:35	1.80	.33	435	1135	COOF 12
12/02/77		14:36	.67	.58	436	1136	CODF 11
12/02/77		14:37	.42	1.20	437	1137	COOF 11
12/02/77		14:39	.80	1.58	438	1138	COOF 18
12/02/77		14:41	.42	.33	439	1139	CODF 24
12/02/77		14:43	1.67	.63	440	1140	CODF 11
12/02/77		14:44	.37	1.50	441	1141	CODF 04
12/02/77		14:46	.50	.33	442	1142	COOF 12
12/02/77		14:48	1.67	.68	443	1143	CODF 24
12/02/77		14:50	1.32	.28	444	1144	COOF 27
12/02/77		14:51	.72	.50	445	1145	COOF 11
12/02/77		14:52	.50	.33	446	1146	COOF 18
12/02/77		14:53	.67	.40	447	1147	COOF 12
12/02/77		14:54	.60	1.33	448	1148	CODF 03
12/02/77		14:56	.67	.28	449	1149	COOF 12
12/02/77		14:57	.72	.25	450	1150	CODF 18
12/02/77			END OF SHIFT AT 15:01				

MODULE 4 = FUZE ASSEMBLY STATION 3 STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:00						
12/05/77		08:04	2.00	3.18	1	1151	CODE 21
12/05/77		08:32	24.82	.38	2	1152	CODE 12
12/05/77		08:46	11.15	.82	3	1153	CODE 12
12/05/77		08:47	.18	.82	4	1154	CODE 12
12/05/77		09:04	16.18	.27	5	1155	CODE 02
12/05/77		09:05	.73	1.38	6	1156	CODE 03
12/05/77		09:12	5.62	.38	7	1157	CODE 12
12/05/77		09:19	6.62	.32	8	1158	CODE 24
12/05/77		09:20	.68	2.32	9	1159	CODE 24
12/05/77		10:38	60.68	.77	10	1160	CODE 12
12/05/77		10:43	4.23	.27	11	1161	CODE 12
12/05/77		10:45	1.73	1.82	12	1162	CODE 28
12/05/77		10:52	5.18	.27	13	1163	CODE 24
12/05/77		11:02	9.73	.38	14	1164	CODE 02
12/05/77		11:13	10.62	.40	15	1165	CODE 12
12/05/77		11:33	19.60	.32	16	1166	CODE 24
12/05/77		11:41	7.68	.90	17	1167	CODE 12
12/05/77		11:42	.10	.32	18	1168	CODE 12
12/05/77		11:44	1.68	.22	19	1169	CODE 12
12/05/77		12:34	19.78	3.55	20	1170	CODE 12
12/05/77		12:38	.45	.65	21	1171	CODE 12
12/05/77		12:45	6.35	.32	22	1172	CODE 24
12/05/77		12:46	.68	.27	23	1173	CODE 24
12/05/77		12:48	1.73	.22	24	1174	CODE 24
12/05/77		12:52	3.78	1.02	25	1175	CODE 12
12/05/77		12:56	2.98	.32	26	1176	CODE 12
12/05/77		13:03	6.68	.27	27	1177	CODE 12
12/05/77		13:05	1.73	.72	28	1178	CODE 03
12/05/77		13:08	2.28	.07	29	1179	CODE 24
12/05/77		13:10	1.93	.60	30	1180	CODE 12
12/05/77		13:17	6.40	.90	31	1181	CODE 12
12/05/77		13:18	.10	.82	32	1182	CODE 03
12/05/77		14:21	47.18	.47	33	1183	CODE 12
12/05/77		14:23	1.53	.27	34	1184	CODE 24
12/05/77		14:26	2.73	.32	35	1185	CODE 12
12/05/77		14:28	1.68	.32	36	1186	CODE 12
12/05/77		14:29	.68	1.18	37	1187	CODE 12
12/05/77		14:32	1.82	.22	38	1188	CODE 24
12/05/77		14:40	7.78	.47	39	1189	CODE 25

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		14:53	12.53	.38	40	1190	CODE 12
12/05/77		14:54	.62	.22	41	1191	CODE 24
12/05/77		14:56	1.78	.22	42	1192	CODE 02
12/05/77		14:57	.78	.38	43	1193	CODE 02
12/05/77		14:58	.62	.52	44	1194	CODE 02
12/05/77		15:05	6.48	.38	45	1195	CODE 12
12/05/77		15:07	1.62	2.22	46	1196	CODE 12
12/05/77		15:18	8.78	.60	47	1197	CODE 02
12/05/77		15:21	2.40	.22	48	1198	CODE 24
12/05/77		15:24	2.78	1.07	49	1199	CODE 12
12/05/77		15:26	.93	.65	50	1200	CODE 27
12/05/77			END OF SHIFT AT 15:26				
12/06/77	08:00						
12/06/77		08:01	.35	.32	51	1201	CODE 12
12/06/77		08:02	.68	1.00	52	1202	CODE 03
12/06/77		08:04	1.00	1.07	53	1203	CODE 12
12/06/77		08:06	.93	.32	54	1204	CODE 12
12/06/77		08:07	.68	.90	55	1205	CODE 12
12/06/77		06:08	.10	.40	56	1206	CODE 12
12/06/77		08:09	.60	.32	57	1207	CODE 12
12/06/77		08:15	5.68	1.77	58	1208	CODE 18
12/06/77		08:17	.23	.22	59	1209	CODE 24
12/06/77		08:20	2.78	1.47	60	1210	CODE 25
12/06/77		08:29	7.53	.32	61	1211	CODE 12
12/06/77		08:33	3.68	3.55	62	1212	TIGHTEN CNVR INFEED BELT
12/06/77		08:38	1.45	.77	63	1213	CODE 12
12/06/77		08:40	1.23	.32	64	1214	CODE 12
12/06/77		08:50	9.68	.22	65	1215	CODE 12
12/06/77		08:51	.78	2.07	66	1216	CODE 27
12/06/77		08:55	1.93	.65	67	1217	CODE 12
12/06/77		09:00	4.35	.47	68	1218	CODE 12
12/06/77		09:01	.53	1.77	69	1219	CODE 12
12/06/77		09:05	2.23	.47	70	1220	CODE 12
12/06/77		09:07	1.53	.72	71	1221	CODE 28
12/06/77		09:13	5.28	.32	72	1222	CODE 12
12/06/77		09:24	10.68	.22	73	1223	CODE 24
12/06/77		09:28	3.78	.22	74	1224	CODE 24
12/06/77		09:33	4.78	.40	75	1225	CODE 12
12/06/77		09:36	2.60	.38	76	1226	CODE 12

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		09:40	3.62	.32	77	1227	CODE 12
12/06/77		09:45	4.68	.38	78	1228	CODE 12
12/06/77		10:26	25.62	1.47	79	1229	CODE 28
12/06/77		10:30	2.53	.32	80	1230	CODE 12
12/06/77		10:36	5.68	.77	81	1231	CODE 02
12/06/77		10:38	1.23	.40	82	1232	CODE 12
12/06/77		10:41	2.60	.52	83	1233	CODE 02
12/06/77		10:42	.48	.27	84	1234	CODE 12
12/06/77		10:43	.73	.47	85	1235	CODE 12
12/06/77		10:45	1.53	.60	86	1236	CODE 12
12/06/77		10:47	1.40	1.40	87	1237	CODE 12
12/06/77		10:49	.60	.22	88	1238	CODE 24
12/06/77		10:50	.78	.65	89	1239	CODE 12
12/06/77		10:55	4.35	.22	90	1240	CODE 24
12/06/77		10:56	.78	.18	91	1241	CODE 24
12/06/77		10:57	.82	.32	92	1242	CODE 12
12/06/77		11:00	2.68	.32	93	1243	CODE 12
12/06/77		11:12	11.68	.38	94	1244	CODE 12
12/06/77		11:18	5.62	.40	95	1245	CODE 12
12/06/77		11:20	1.60	11.07	96	1246	CODE 28
12/06/77		11:32	.93	.47	97	1247	CODE 12
12/06/77		11:33	.53	.22	98	1248	CODE 12
12/06/77		11:45	11.78	1.00	99	1249	CODE 16
12/06/77		11:47	1.00	13.00	100	1250	CODE 16
12/06/77		12:30	0.00	5.00	101	1251	CODE 16
12/06/77		12:38	3.00	.38	102	1252	CODE 12
12/06/77		12:45	6.62	.32	103	1253	CODE 12
12/06/77		12:51	5.68	.27	104	1254	CODE 12
12/06/77		12:52	.73	.27	105	1255	CODE 12
12/06/77		12:54	1.73	5.55	106	1256	CODE 29
12/06/77		13:09	9.45	.38	107	1257	CODE 18
12/06/77		13:24	14.62	1.40	108	1258	CODE 25
12/06/77		13:29	3.60	2.55	109	1259	CODE 12
12/06/77		13:32	.45	.60	110	1260	CODE 12
12/06/77		13:40	7.40	.90	111	1261	CODE 12
12/06/77		13:45	4.10	.52	112	1262	CODE 03
12/06/77		14:30	29.48	1.55	113	1263	CODE 12
12/06/77		14:45	13.45	.40	114	1264	CODE 24
12/06/77		15:00	14.60	.32	115	1265	CODE 24
12/06/77		15:06	5.68	.55	116	1266	CODE 02

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		15:08	1.45	.27	117	1267	CODE 24
12/06/77		15:10	1.73	.40	118	1268	CODE 12
12/06/77			END OF SHIFT AT 15:20				
12/07/77	08:00						
12/07/77		08:14	16.05	.32	119	1269	CODE 12
12/07/77		08:15	.68	.32	120	1270	CODE 12
12/07/77		08:16	.68	21.00	121	1271	CODE 16
12/07/77		08:40	3.00	.22	122	1272	CODE 24
12/07/77		08:48	5.47	.82	123	1273	CODE 24
12/07/77		08:49	.18	1.27	124	1274	CODE 12
12/07/77		08:56	5.73	.52	125	1275	CODE 12
12/07/77		08:59	2.48	.55	126	1276	CODE 02
12/07/77		09:02	2.45	.47	127	1277	CODE 02
12/07/77		09:04	1.53	1.90	128	1278	CODE 02
12/07/77		09:06	.10	1.07	129	1279	CODE 02
12/07/77		09:15	7.93	2.18	130	1280	FUZE KNOCKED OFF GRENADE
12/07/77		09:20	2.82	5.07	131	1281	CODE 12
12/07/77		09:29	3.93	3.00	132	1282	CODE 12
12/07/77		09:32	0.00	2.00	133	1283	LUBRICATE SHOT PIN
12/07/77		09:35	1.00	7.00	134	1284	CODE 12
12/07/77		10:18	21.00	1.47	135	1285	CODE 12
12/07/77		10:30	10.53	.27	136	1286	CODE 27
12/07/77		10:33	2.73	.40	137	1287	CODE 12
12/07/77		10:38	4.60	.38	138	1288	CODE 27
12/07/77		10:42	3.62	1.00	139	1289	CODE 28
12/07/77		10:44	1.00	.38	140	1290	CODE 12
12/07/77		10:46	1.62	1.38	141	1291	CODE 18
12/07/77		10:52	4.62	.27	142	1292	CODE 12
12/07/77		10:58	5.73	.47	143	1293	CODE 12
12/07/77		10:59	.53	.38	144	1294	CODE 12
12/07/77		11:05	5.62	.80	145	1295	CODE 28
12/07/77		11:30	24.20	1.27	146	1296	CODE 18
12/07/77		11:36	4.73	.55	147	1297	CODE 12
12/07/77		11:43	6.45	.22	148	1298	CODE 24
12/07/77		12:36	22.78	.60	149	1299	CODE 18
12/07/77		12:50	13.40	.22	150	1300	CODE 24
12/07/77		13:00	9.78	1.47	151	1301	CODE 28
12/07/77		13:15	13.53	.27	152	1302	CODE 27
12/07/77		13:31	15.73	.32	153	1303	CODE 24

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		14:27	40.68	.55	154	1304	CODE 12
12/07/77		14:30	2.45	.22	155	1305	CODE 24
12/07/77		14:43	12.78	.40	156	1306	CODE 12
12/07/77		14:50	6.60	1.38	157	1307	CODE 12
12/07/77		14:58	4.58	.40	158	1308	CODE 27
12/07/77		15:03	4.60	1.27	159	1309	CODE 18
12/07/77		15:08	3.73	1.77	160	1310	CODE 27
12/07/77		15:12	2.23	.82	161	1311	CODE 12
12/07/77		15:16	3.18	.60	162	1312	CODE 27
12/07/77		15:31	12.88	.60	163	1313	CODE 24
12/07/77		15:32	.40	.82	164	1314	CODE 27
12/07/77			END OF SHIFT AT 15:45				
12/08/77	08:05						
12/08/77		08:11	18.18	.85	165	1315	CODE 05
12/08/77		08:14	2.15	1.02	166	1316	CODE 02
12/08/77		08:17	1.98	4.02	167	1317	CODE 12
12/08/77		08:24	2.98	.32	168	1318	CODE 12
12/08/77		08:26	1.68	.82	169	1319	CODE 12
12/08/77		08:30	3.18	.18	170	1320	CODE 21
12/08/77		08:35	4.82	1.00	171	1321	CODE 03
12/08/77		08:44	8.00	.27	172	1322	CODE 24
12/08/77		08:47	2.73	.18	173	1323	CODE 27
12/08/77		08:48	.82	.38	174	1324	CODE 18
12/08/77		08:51	2.62	.65	175	1325	CODE 18
12/08/77		08:52	.35	1.27	176	1326	FUZE JARRED OFF BODY
12/08/77		08:55	1.73	.90	177	1327	CODE 27
12/08/77		08:58	2.10	.10	178	1328	CODE 12
12/08/77		09:04	5.90	.47	179	1329	CODE 02
12/08/77		09:07	2.53	.38	180	1330	CODE 27
12/08/77		09:17	9.62	.22	181	1331	CODE 27
12/08/77		09:18	.78	.40	182	1332	CODE 02
12/08/77		09:24	5.60	.22	183	1333	CODE 24
12/08/77		09:25	.78	1.07	184	1334	CODE 02
12/08/77		09:27	.93	.32	185	1335	CODE 02
12/08/77		09:30	2.68	.27	186	1336	CODE 27
12/08/77		09:37	6.73	.32	187	1337	CODE 27
12/08/77		09:42	4.68	1.10	188	1338	CODE 28
12/08/77		09:44	.90	.72	189	1339	CODE 15
12/08/77		09:53	8.28	.40	190	1340	CODE 24

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		10:20	11.60	.27	191	1341	CODE 27
12/08/77		10:22	1.73	.40	192	1342	CODE 05
12/08/77		10:30	7.60	.27	193	1343	CODE 27
12/08/77		10:37	6.73	.27	194	1344	CODE 24
12/08/77		10:49	11.73	.47	195	1345	CODE 11
12/08/77		10:54	4.53	.38	196	1346	CODE 02
12/08/77		10:59	4.62	.52	197	1347	CODE 02
12/08/77		11:05	5.48	.22	198	1348	CODE 27
12/08/77		11:38	32.78	.27	199	1349	CODE 12
12/08/77		11:39	.73	.38	200	1350	CODE 12
12/08/77		11:40	.62	.85	201	1351	CODE 02
12/08/77		11:51	10.15	.38	202	1352	CODE 27
12/08/77		12:32	10.62	.27	203	1353	CODE 12
12/08/77		12:47	14.73	.27	204	1354	CODE 24
12/08/77		12:49	1.73	.40	205	1355	CODE 24
12/08/77		12:59	9.60	.27	206	1356	CODE 27
12/08/77		13:07	7.73	.22	207	1357	CODE 12
12/08/77		13:21	13.78	.40	208	1358	CODE 02
12/08/77		13:23	1.60	.38	209	1359	CODE 12
12/08/77		13:29	5.62	.22	210	1360	CODE 27
12/08/77		13:36	6.78	.32	211	1361	CODE 27
12/08/77		13:40	3.68	.27	212	1362	CODE 27
12/08/77		13:43	2.73	.60	213	1363	CODE 28
12/08/77		13:49	5.40	.38	214	1364	CODE 27
12/08/77		14:23	18.62	1.55	215	1365	CODE 24
12/08/77		14:25	.45	6.00	216	1366	CODE 12
12/08/77		14:38	7.00	.52	217	1367	CODE 02
12/08/77		14:41	2.48	1.47	218	1368	CODE 09
12/08/77		14:43	.53	.40	219	1369	CODE 02
12/08/77		14:44	.60	.47	220	1370	CODE 12
12/08/77		14:49	4.53	.27	221	1371	CODE 07
12/08/77		14:51	1.73	1.22	222	1372	CODE 04
12/08/77			END OF SHIFT AT 14:53				
12/09/77	08:00						
12/09/77		08:03	3.78	.27	223	1373	CODE 12
12/09/77		08:15	11.73	.82	224	1374	CODE 28
12/09/77		08:37	19.08	.32	225	1375	CODE 12
12/09/77		09:03	25.68	.40	226	1376	CODE 12
12/09/77		09:04	.60	.32	227	1377	CODE 12

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		09:21	16.68	.22	228	1378	CODE 24
12/09/77		09:24	2.78	.47	229	1379	GRENADE FALLEN ON FLOOR
12/09/77		11:30	8.53	3.47	230	1380	ADJUST MACHINE TIMING
12/09/77		11:41	7.53	.60	231	1381	CODE 11
12/09/77		12:41	29.40	.90	232	1382	CODE 11
12/09/77		12:43	1.10	.32	233	1383	CODE 12
12/09/77		12:45	1.68	.65	234	1384	CODE 11
12/09/77		12:50	4.35	3.00	235	1385	CODE 21
12/09/77		12:58	5.00	.32	236	1386	CODE 12
12/09/77		13:07	8.68	.60	237	1387	CODE 11
12/09/77		13:09	1.40	.47	238	1388	CODE 11
12/09/77		13:10	.53	6.90	239	1389	CODE 11
12/09/77		13:17	.10	.65	240	1390	CODE 18
12/09/77		13:26	8.35	1.22	241	1391	CODE 18
12/09/77		13:31	3.78	.47	242	1392	CODE 27
12/09/77		13:37	5.53	.52	243	1393	CODE 18
12/09/77		14:38	45.48	.38	244	1394	CODE 27
12/09/77		14:39	.62	.40	245	1395	CODE 18
12/09/77		15:06	26.60	.47	246	1396	CODE 12
12/09/77		15:07	.53	.35	247	1397	CODE 02
12/09/77		15:08	.65	.47	248	1398	CODE 24
12/09/77		15:09	.53	.32	249	1399	CODE 18
12/09/77		15:14	4.68	.22	250	1400	CODE 12
12/09/77			END OF SHIFT AT 15:15				

MODULE 5 = FUZE ASSEMBLY STATION 4 STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:06						
12/05/77		08:06	0.00	3.85	1	1401	CODE 18
12/05/77		08:42	1.08	1.52	2	1402	CODE 25
12/05/77		08:44	.48	.82	3	1403	CODE 27
12/05/77		08:45	.18	1.18	4	1404	CONVEYOR CHAIN OUT OF LINE
12/05/77		08:47	.82	.27	5	1405	CODE 24
12/05/77		08:48	.73	.18	6	1406	CODE 24
12/05/77		08:49	.82	.22	7	1407	CODE 27
12/05/77		08:50	.78	.22	8	1408	CODE 24
12/05/77		08:51	.78	.27	9	1409	CODE 18
12/05/77		08:52	.73	.65	10	1410	CODE 18
12/05/77		08:53	.35	.60	11	1411	CODE 18
12/05/77		08:56	2.40	.47	12	1412	CODE 12
12/05/77		08:57	.53	.40	13	1413	CODE 18
12/05/77		08:58	.60	.38	14	1414	CODE 12
12/05/77		08:59	.62	.22	15	1415	CODE 27
12/05/77		09:00	.78	.18	16	1416	CODE 24
12/05/77		09:02	1.82	.27	17	1417	CODE 12
12/05/77		09:03	.73	.18	18	1418	CODE 24
12/05/77		09:05	1.82	1.72	19	1419	CODE 25
12/05/77		09:08	1.28	.72	20	1420	CODE 18
12/05/77		09:09	.28	2.10	21	1421	CODE 18
12/05/77		09:12	.90	.38	22	1422	CODE 18
12/05/77		09:14	1.62	.27	23	1423	CODE 27
12/05/77		09:15	.73	.22	24	1424	CODE 18
12/05/77		09:16	.78	.90	25	1425	CODE 18
12/05/77		09:19	2.10	.60	26	1426	CODE 18
12/05/77		09:20	.40	.47	27	1427	CODE 02
12/05/77		09:25	4.53	.32	28	1428	CODE 12
12/05/77		09:29	3.68	.32	29	1429	CODE 27
12/05/77		09:30	.68	.22	30	1430	CODE 12
12/05/77		09:35	4.78	.18	31	1431	CODE 27
12/05/77		09:36	.82	.52	32	1432	CODE 18
12/05/77		09:42	5.48	.18	33	1433	CODE 27
12/05/77		09:48	5.82	.32	34	1434	CODE 18
12/05/77		09:53	4.68	.22	35	1435	CODE 27
12/05/77		09:56	2.78	.18	36	1436	CODE 12
12/05/77		10:17	5.82	.18	37	1437	CODE 02
12/05/77		10:22	4.82	.65	38	1438	CODE 12
12/05/77		10:23	.35	.72	39	1439	CODE 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		10:24	.28	.55	40	1440	CODE 12
12/05/77		10:26	1.45	.32	41	1441	CODE 18
12/05/77		10:28	1.68	.27	42	1442	COOE 24
12/05/77		10:30	1.73	.18	43	1443	COOE 24
12/05/77		10:31	.82	.52	44	1444	COOE 18
12/05/77		10:34	2.48	.32	45	1445	COOE 12
12/05/77		10:36	1.68	.55	46	1446	COOF 18
12/05/77		10:38	1.45	.22	47	1447	COOE 27
12/05/77		10:40	1.78	.32	48	1448	COOE 12
12/05/77		10:41	.68	.40	49	1449	COOE 12
12/05/77		10:42	.60	.40	50	1450	COOE 12
12/05/77		10:43	.60	.18	51	1451	CODE 24
12/05/77		10:44	.82	.18	52	1452	COOE 24
12/05/77		10:46	1.82	1.82	53	1453	COOE 12
12/05/77		10:49	1.18	.18	54	1454	CODE 12
12/05/77		10:51	1.82	1.07	55	1455	CODE 16
12/05/77		10:53	.93	.18	56	1456	COOE 27
12/05/77		10:54	.82	.22	57	1457	COOE 24
12/05/77		10:55	.78	.38	58	1458	CODE 02
12/05/77		10:56	.62	.18	59	1459	COOE 24
12/05/77		10:58	1.82	.52	60	1460	COOF 18
12/05/77		10:59	.48	.27	61	1461	COOE 12
12/05/77		11:00	.73	.18	62	1462	COOE 27
12/05/77		11:02	1.82	.52	63	1463	COOE 12
12/05/77		11:06	3.48	1.02	64	1464	COOE 12
12/05/77		11:08	.98	.47	65	1465	CODE 11
12/05/77		11:09	.53	.32	66	1466	COOE 12
12/05/77		11:10	.68	.40	67	1467	CODE 12
12/05/77		11:11	.60	.60	68	1468	COOE 03
12/05/77		11:12	.40	.18	69	1469	COOE 24
12/05/77		11:13	.82	.18	70	1470	COOE 24
12/05/77		11:14	.82	.18	71	1471	COOE 27
12/05/77		11:15	.82	1.07	72	1472	CODE 12
12/05/77		11:17	.93	.27	73	1473	COOF 16
12/05/77		11:18	.73	.27	74	1474	CODE 16
12/05/77		11:19	.73	.40	75	1475	COOE 16
12/05/77		11:20	.60	.22	76	1476	CODE 12
12/05/77		11:21	.78	.32	77	1477	COOE 12
12/05/77		11:22	.68	.18	78	1478	COOE 24
12/05/77		11:23	.82	.65	79	1479	COOF 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		11:28	4.35	.38	80	1480	CODE 18
12/05/77		11:33	4.62	.22	81	1481	CODE 24
12/05/77		11:34	.78	.27	82	1482	CODE 12
12/05/77		11:35	.73	.18	83	1483	CODE 24
12/05/77		11:36	.82	.22	84	1484	CODE 27
12/05/77		11:37	.78	.18	85	1485	CODE 12
12/05/77		11:38	.82	.27	86	1486	CODE 16
12/05/77		11:39	.73	.18	87	1487	CODE 24
12/05/77		11:42	2.82	.38	88	1488	CODE 12
12/05/77		11:45	2.62	.52	89	1489	CODE 12
12/05/77		11:51	5.48	.22	90	1490	CODE 24
12/05/77		11:52	.78	.27	91	1491	CODE 12
12/05/77		11:57	4.73	.18	92	1492	CODE 12
12/05/77		12:32	4.82	2.18	93	1493	CHANGE WIRE SHIELDS
12/05/77		12:38	3.82	.47	94	1494	CODE 12
12/05/77		12:39	.53	.47	95	1495	CODE 12
12/05/77		12:43	3.53	.18	96	1496	CODE 27
12/05/77		12:45	1.82	.52	97	1497	CODE 05
12/05/77		12:46	.48	.18	98	1498	CODE 24
12/05/77		12:52	5.82	.18	99	1499	CODE 27
12/05/77		12:53	.82	.32	100	1500	CODE 27
12/05/77		12:54	.68	.65	101	1501	CODE 12
12/05/77		12:59	4.35	1.65	102	1502	CODE 04
12/05/77		13:03	2.35	.18	103	1503	CODE 24
12/05/77		13:05	1.82	.22	104	1504	CODE 24
12/05/77		13:06	.78	.22	105	1505	CODE 27
12/05/77		13:08	1.78	.18	106	1506	CODE 24
12/05/77		13:09	.82	.77	107	1507	CODE 18
12/05/77		13:12	2.23	.60	108	1508	CODE 12
12/05/77		13:14	1.40	.27	109	1509	CODE 12
12/05/77		13:15	.73	.38	110	1510	CODE 12
12/05/77		13:16	.62	.40	111	1511	CODE 12
12/05/77		13:18	1.60	.72	112	1512	CODE 18
12/05/77		13:19	.28	.52	113	1513	CODE 27
12/05/77		13:20	.48	1.90	114	1514	CODE 12
12/05/77		13:23	1.10	1.27	115	1515	CODE 25
12/05/77		13:25	.73	.38	116	1516	CODE 24
12/05/77		13:26	.62	.22	117	1517	CODE 24
12/05/77		13:27	.78	1.07	118	1518	CODE 12
12/05/77		13:29	.93	.38	119	1519	CODE 27

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		13:32	2.62	.60	120	1520	CODE 12
12/05/77		13:33	.40	2.18	121	1521	FUZE KNOCKED OFF BODY BY GAGE
12/05/77		13:36	.82	.32	122	1522	CODE 11
12/05/77		13:37	.68	3.65	123	1523	CODE 12
12/05/77		13:41	.35	.65	124	1524	CODE 24
12/05/77		13:44	2.35	1.60	125	1525	CODE 12
12/05/77		13:51	5.40	.55	126	1526	CODE 12
12/05/77		13:53	1.45	.18	127	1527	CODE 12
12/05/77		13:57	3.82	.32	128	1528	CODE 12
12/05/77		14:21	8.62	.60	129	1529	CODE 12
12/05/77		14:22	.40	1.32	130	1530	CODE 12
12/05/77		14:24	.68	.40	131	1531	CODE 12
12/05/77		14:25	.60	.38	132	1532	CODE 24
12/05/77		14:28	1.23	.32	133	1533	CODE 27
12/05/77		14:29	.68	.18	134	1534	CODE 24
12/05/77		14:30	.82	.18	135	1535	CODE 24
12/05/77		14:32	1.82	.55	136	1536	CODE 12
12/05/77		14:37	4.45	2.72	137	1537	CODE 28
12/05/77		14:40	.28	.27	138	1538	CODE 24
12/05/77		14:41	.73	.22	139	1539	CODE 24
12/05/77		14:42	.78	.22	140	1540	CODE 12
12/05/77		14:44	1.78	.38	141	1541	CODE 12
12/05/77		14:46	1.62	.32	142	1542	CODE 12
12/05/77		14:49	2.68	.18	143	1543	CODE 24
12/05/77		14:51	1.82	.22	144	1544	CODE 24
12/05/77		14:53	1.78	.22	145	1545	CODE 24
12/05/77		14:54	.78	.52	146	1546	CODE 12
12/05/77		14:55	.48	3.13	147	1547	CODE 12
12/05/77		15:00	1.87	.18	148	1548	CODE 24
12/05/77		15:02	1.82	.27	149	1549	CODE 12
12/05/77		15:03	.73	.18	150	1550	CODE 24
12/05/77		15:04	.82	.18	151	1551	CODE 24
12/05/77		15:06	1.82	.18	152	1552	CODE 24
12/05/77		15:07	.82	.18	153	1553	CODE 24
12/05/77		15:11	3.82	.18	154	1554	CODE 24
12/05/77		15:12	.82	.22	155	1555	CODE 11
12/05/77		15:18	5.78	1.07	156	1556	CODE 12
12/05/77		15:20	.93	.23	157	1557	CODE 12
12/05/77		15:21	.77	2.00	158	1558	CODE 12
12/05/77		15:23	0.00	.27	159	1559	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		15:24	.73	.18	160	1560	CODE 24
12/05/77		15:25	.82	.32	161	1561	CODE 27
12/05/77		15:27	1.68	.22	162	1562	CODE 24
12/05/77		15:28	.78	.18	163	1563	CODE 24
12/05/77			END OF SHIFT AT 15:31				
12/06/77	08:00						
12/06/77		08:29	3.82	.27	164	1564	CODE 11
12/06/77		08:30	.73	.77	165	1565	CODE 11
12/06/77		08:31	.23	.75	166	1566	CODE 12
12/06/77		08:32	.25	1.38	167	1567	CODE 25
12/06/77		08:34	.62	.65	168	1568	CODE 27
12/06/77		08:35	.35	.27	169	1569	CODE 24
12/06/77		08:36	.73	1.10	170	1570	CODE 18
12/06/77		08:38	.90	1.27	171	1571	CODE 18
12/06/77		08:40	.73	.77	172	1572	CODE 18
12/06/77		08:41	.23	1.40	173	1573	CODE 18
12/06/77		08:47	4.60	.82	174	1574	CODE 12
12/06/77		08:48	.18	.27	175	1575	CODE 27
12/06/77		08:50	1.73	.27	176	1576	CODE 24
12/06/77		08:52	1.73	.22	177	1577	CODE 27
12/06/77		08:53	.78	.32	178	1578	CODE 05
12/06/77		08:54	.68	.32	179	1579	CODE 12
12/06/77		08:55	.68	.27	180	1580	FUZE KNOCKED OFF BY GAGE
12/06/77		08:56	.73	.52	181	1581	CODE 12
12/06/77		08:59	2.48	.18	182	1582	CODE 24
12/06/77		09:00	.82	.32	183	1583	CODE 05
12/06/77		09:01	.68	.18	184	1584	CODE 24
12/06/77		09:02	.82	.22	185	1585	CODE 24
12/06/77		09:03	.78	.18	186	1586	CODE 27
12/06/77		09:08	4.82	.18	187	1587	CODE 24
12/06/77		09:09	.82	.22	188	1588	CODE 27
12/06/77		09:12	2.78	.18	189	1589	CODE 24
12/06/77		09:13	.82	.18	190	1590	CODE 27
12/06/77		09:15	1.82	.18	191	1591	CODE 24
12/06/77		09:17	1.82	1.65	192	1592	CODE 12
12/06/77		09:21	2.35	2.52	193	1593	CODE 16
12/06/77		09:24	.48	.65	194	1594	CODE 18
12/06/77		09:25	.35	.60	195	1595	CODE 27
12/06/77		09:26	.40	.18	196	1596	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		09:27	.82	.18	197	1597	COOE 24
12/06/77		09:28	.82	.38	198	1598	COOF 05
12/06/77		09:29	.62	.38	199	1599	CODF 12
12/06/77		09:30	.62	.52	200	1600	COOF 12
12/06/77		09:32	1.48	.38	201	1601	CODE 27
12/06/77		09:45	12.62	.18	202	1602	COOF 24
12/06/77		09:47	1.82	.18	203	1603	COOF 24
12/06/77		09:53	5.82	.22	204	1604	COOE 27
12/06/77		09:58	4.78	.18	205	1605	CODF 24
12/06/77		10:22	8.82	.77	206	1606	COOF 18
12/06/77		10:24	1.23	.22	207	1607	COOE 24
12/06/77		10:26	1.78	.40	208	1608	COOE 12
12/06/77		10:27	.60	.18	209	1609	CODE 24
12/06/77		10:28	.82	.22	210	1610	COOF 24
12/06/77		10:30	1.78	.32	211	1611	COOF 18
12/06/77		10:31	.68	.18	212	1612	COOE 24
12/06/77		10:32	.82	.72	213	1613	COOE 27
12/06/77		10:34	1.28	.18	214	1614	COOF 24
12/06/77		10:35	.82	.18	215	1615	COOE 24
12/06/77		10:38	2.82	.18	216	1616	COOF 24
12/06/77		10:40	1.82	.40	217	1617	COOF 12
12/06/77		10:43	2.60	.18	218	1618	COOF 24
12/06/77		10:45	1.82	.52	219	1619	COOF 12
12/06/77		10:46	.48	.22	220	1620	COOE 24
12/06/77		10:49	2.78	.77	221	1621	COOE 18
12/06/77		10:51	1.23	.18	222	1622	COOE 24
12/06/77		10:52	.82	.27	223	1623	CODE 27
12/06/77		10:53	.73	.18	224	1624	CODE 27
12/06/77		10:56	2.82	.27	225	1625	COOE 27
12/06/77		10:57	.73	.27	226	1626	COOF 27
12/06/77		11:00	2.73	.27	227	1627	COOF 11
12/06/77		11:01	.73	.72	228	1628	COOF 24
12/06/77		11:05	3.28	.18	229	1629	COOF 27
12/06/77		11:07	1.82	.47	230	1630	COOF 11
12/06/77		11:11	3.53	.32	231	1631	COOF 24
12/06/77		11:13	1.68	.72	232	1632	CODF 27
12/06/77		11:14	.28	.18	233	1633	CODF 24
12/06/77		11:17	2.82	.18	234	1634	COOF 24
12/06/77		11:18	.82	.40	235	1635	CODE 27
12/06/77		11:19	.60	1.27	236	1636	COOF 11

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		11:21	.73	.27	237	1637	CODE 18
12/06/77		11:23	1.73	.22	238	1638	CODE 12
12/06/77		11:24	.78	.18	239	1639	CODE 24
12/06/77		11:28	3.82	.22	240	1640	CODE 24
12/06/77		11:31	2.78	.18	241	1641	CODE 24
12/06/77		11:32	.82	.27	242	1642	CODE 11
12/06/77		11:33	.73	1.07	243	1643	FUZE KNOCKED OFF BY GAGE
12/06/77		11:35	.93	.38	244	1644	CODE 12
12/06/77		11:36	.62	.18	245	1645	CODE 27
12/06/77		11:37	.82	.18	246	1646	CODE 24
12/06/77		11:38	.82	.40	247	1647	CODE 12
12/06/77		11:43	4.60	.18	248	1648	CODE 24
12/06/77		11:44	.82	.22	249	1649	CODE 24
12/06/77		11:49	4.78	.22	250	1650	CODE 27
12/06/77		11:57	7.78	.27	251	1651	CODE 12
12/06/77		11:58	.73	.18	252	1652	CODE 24
12/06/77		12:38	9.82	.22	253	1653	CODE 24
12/06/77		12:40	1.78	.72	254	1654	CODE 12
12/06/77		12:41	.28	1.82	255	1655	CODE 18
12/06/77		12:44	1.18	.27	256	1656	CODE 27
12/06/77		12:46	1.73	.22	257	1657	CODE 27
12/06/77		12:47	.78	.18	258	1658	CODE 24
12/06/77		12:50	2.82	.22	259	1659	CODE 27
12/06/77		12:51	.78	.60	260	1660	CODE 12
12/06/77		12:52	.40	.32	261	1661	CODE 24
12/06/77		12:53	.68	.22	262	1662	CODE 12
12/06/77		12:54	.78	.18	263	1663	CODE 12
12/06/77		12:55	.82	1.38	264	1664	CODE 12
12/06/77		12:58	1.62	.32	265	1665	CODE 11
12/06/77			END OF SHIFT AT 12:59				
12/07/77	08:00						
12/07/77		08:04	4.68	.38	266	1666	CODE 12
12/07/77		08:13	8.62	.60	267	1667	CODE 27
12/07/77		08:15	1.40	.52	268	1668	CODE 12
12/07/77		08:16	.48	.40	269	1669	CODE 12
12/07/77		08:19	2.60	.18	270	1670	CODE 24
12/07/77		08:20	.82	.40	271	1671	CODE 27
12/07/77		08:21	.60	.32	272	1672	CODE 12
12/07/77		08:22	.68	.18	273	1673	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		08:24	1.82	.27	274	1674	CODE 11
12/07/77		08:25	.73	4.10	275	1675	CODE 28
12/07/77		08:30	.90	.18	276	1676	CODE 24
12/07/77		08:32	1.82	2.77	277	1677	CODE 12
12/07/77		08:37	2.23	.90	278	1678	CODE 28
12/07/77		08:38	.10	.27	279	1679	CODE 27
12/07/77		08:40	1.73	.40	280	1680	CODE 12
12/07/77		08:41	.60	.27	281	1681	CODE 12
12/07/77		08:42	.73	.32	282	1682	CODE 12
12/07/77		08:44	1.68	.18	283	1683	CODE 24
12/07/77		08:46	1.82	.22	284	1684	CODE 27
12/07/77		08:48	1.78	1.82	285	1685	CODE 28
12/07/77		08:50	.18	.22	286	1686	CODE 27
12/07/77		08:51	.78	.18	287	1687	CODE 24
12/07/77		08:53	1.82	.40	288	1688	CODE 24
12/07/77		08:55	1.60	.32	289	1689	CODE 12
12/07/77		08:56	.68	.27	290	1690	CODE 27
12/07/77		08:57	.73	.18	291	1691	CODE 27
12/07/77		08:58	.82	.65	292	1692	CODE 02
12/07/77		09:00	1.35	.40	293	1693	CODE 18
12/07/77		09:01	.60	.52	294	1694	CODE 18
12/07/77		09:05	3.48	.18	295	1695	CODE 24
12/07/77		09:10	4.82	1.38	296	1696	CODE 02
12/07/77		09:13	1.62	.38	297	1697	CODE 02
12/07/77		09:15	1.62	.32	298	1698	CODE 12
12/07/77		09:16	.68	.18	299	1699	CODE 24
12/07/77		09:18	1.82	.18	300	1700	CODE 24
12/07/77		09:23	4.82	.22	301	1701	CODE 27
12/07/77		09:24	.78	.18	302	1702	CODE 24
12/07/77		09:25	.82	3.77	303	1703	CODE 28
12/07/77		09:31	2.23	.18	304	1704	CODE 24
12/07/77		09:32	.82	.77	305	1705	CODE 18
12/07/77		09:33	.23	.18	306	1706	CODE 24
12/07/77		09:34	.82	.32	307	1707	CODE 12
12/07/77		09:35	.68	.18	308	1708	CODE 24
12/07/77		09:36	.82	.18	309	1709	CODE 24
12/07/77		09:41	4.82	.22	310	1710	CODE 24
12/07/77		09:42	.78	.18	311	1711	CODE 24
12/07/77		09:43	.82	.18	312	1712	CODE 24
12/07/77		09:49	5.82	.27	313	1713	CODE 27

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		09:53	3.73	.27	314	1714	CODE 24
12/07/77		09:57	3.73	.40	315	1715	CODE 02
12/07/77		10:18	5.60	2.10	316	1716	CODE 12
12/07/77		10:21	.90	.72	317	1717	CODE 12
12/07/77		10:23	1.28	.55	318	1718	CODE 12
12/07/77		10:24	.45	.38	319	1719	CODE 12
12/07/77		10:25	.62	.65	320	1720	CODE 03
12/07/77		10:26	.35	.38	321	1721	CODE 12
12/07/77		10:27	.62	.38	322	1722	CODE 12
12/07/77		10:28	.62	.55	323	1723	CODE 12
12/07/77		10:29	.45	.27	324	1724	CODE 11
12/07/77		10:30	.73	.82	325	1725	CODE 18
12/07/77		10:32	1.18	.27	326	1726	CODE 27
12/07/77		10:35	2.73	.38	327	1727	CODE 02
12/07/77		10:36	.62	.27	328	1728	CODE 27
12/07/77		10:37	.73	.82	329	1729	CODE 12
12/07/77		10:40	2.18	2.07	330	1730	CODE 16
12/07/77		10:43	.93	.85	331	1731	CODE 12
12/07/77		10:44	.15	.38	332	1732	CODE 11
12/07/77		10:49	4.62	.27	333	1733	CODE 12
12/07/77		10:50	.73	.18	334	1734	CODE 24
12/07/77		10:52	1.82	.18	335	1735	CODE 24
12/07/77		10:55	2.82	.18	336	1736	CODE 24
12/07/77		10:56	.82	.60	337	1737	CODE 16
12/07/77		10:58	1.40	.22	338	1738	CODE 12
12/07/77		10:59	.78	.18	339	1739	CODE 24
12/07/77		11:00	.82	.38	340	1740	CODE 11
12/07/77		11:02	1.62	.18	341	1741	CODE 24
12/07/77		11:04	1.82	.27	342	1742	CODE 12
12/07/77		11:06	1.73	.22	343	1743	CODE 27
12/07/77		11:07	.78	.32	344	1744	CODE 12
12/07/77		11:08	.68	3.10	345	1745	CODE 16
12/07/77		11:12	.90	.27	346	1746	CODE 12
12/07/77		11:16	3.73	.22	347	1747	CODE 27
12/07/77		11:17	.78	.18	348	1748	CODE 24
12/07/77		11:21	3.82	.18	349	1749	CODE 24
12/07/77		11:22	.82	.55	350	1750	CODE 12
12/07/77		11:24	1.45	.22	351	1751	CODE 27
12/07/77		11:25	.78	.22	352	1752	CODE 18
12/07/77		11:26	.78	.60	353	1753	CODE 02

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		11:27	.40	.18	354	1754	CODE 24
12/07/77		11:29	1.82	.22	355	1755	CODE 24
12/07/77		11:31	1.78	.82	356	1756	CODE 15
12/07/77		11:33	1.18	1.40	357	1757	CODE 25
12/07/77		11:36	1.60	4.22	358	1758	CODE 28
12/07/77		11:43	2.78	2.18	359	1759	MISC PROBLEM
12/07/77		11:47	1.82	.22	360	1760	CODE 12
12/07/77		11:51	3.78	.18	361	1761	CODE 24
12/07/77		11:55	3.82	.38	362	1762	CODE 02
12/07/77		11:58	2.62	.18	363	1763	CODE 24
12/07/77		12:32	3.82	.40	364	1764	CODE 12
12/07/77		12:35	2.60	1.07	365	1765	CODE 12
12/07/77		12:37	.93	.22	366	1766	CODE 18
12/07/77		12:38	.78	.32	367	1767	CODE 12
12/07/77		12:40	1.68	.38	368	1768	CODE 12
12/07/77		12:41	.62	3.27	369	1769	CODE 02
12/07/77		12:45	.73	.87	370	1770	CODE 02
12/07/77		12:46	.13	2.07	371	1771	CODE 11
12/07/77		12:49	.93	.27	372	1772	CODE 11
12/07/77		12:50	.73	.32	373	1773	CODE 12
12/07/77		12:51	.68	1.00	374	1774	CODE 02
12/07/77		12:52	0.00	.27	375	1775	CODE 18
12/07/77		12:53	.73	.38	376	1776	CODE 12
12/07/77		12:54	.62	.40	377	1777	CODE 12
12/07/77		12:56	1.60	4.85	378	1778	CODE 16
12/07/77		13:01	.15	.32	379	1779	CODE 12
12/07/77		13:02	.68	.90	380	1780	CODE 18
12/07/77		13:03	.10	.40	381	1781	CODE 12
12/07/77		13:04	.60	.27	382	1782	CODE 24
12/07/77		13:05	.73	.52	383	1783	CODE 12
12/07/77		13:06	.48	1.02	384	1784	CODE 12
12/07/77		13:08	.98	.18	385	1785	CODE 12
12/07/77		13:09	.82	.40	386	1786	CODE 12
12/07/77		13:11	1.60	.65	387	1787	CODE 12
12/07/77		13:12	.35	.55	388	1788	CODE 12
12/07/77		13:13	.45	.18	389	1789	CODE 24
12/07/77		13:14	.82	.55	390	1790	CODE 12
12/07/77		13:15	.45	.18	391	1791	CODE 24
12/07/77		13:16	.82	.22	392	1792	CODE 24
12/07/77		13:17	.78	.18	393	1793	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		13:18	.82	3.65	394	1794	CODE 29
12/07/77		13:22	.35	1.22	395	1795	CODE 29
12/07/77		13:24	.78	.85	396	1796	CODE 12
12/07/77		13:25	.15	.38	397	1797	CODE 12
12/07/77		13:26	.62	.18	398	1798	CODE 24
12/07/77		13:27	.82	.18	399	1799	CODE 24
12/07/77		13:28	.82	1.10	400	1800	CODE 02
12/07/77		13:30	.90	.40	401	1801	CODE 12
12/07/77		13:31	.60	.55	402	1802	CODE 12
12/07/77		13:32	.45	.18	403	1803	CODE 24
12/07/77		13:33	.82	.38	404	1804	CODE 12
12/07/77		13:35	1.62	1.82	405	1805	CODE 29
12/07/77		13:37	.18	.18	406	1806	CODE 24
12/07/77		13:38	.82	.52	407	1807	CODE 12
12/07/77		13:39	.48	.85	408	1808	CODE 12
12/07/77		13:42	2.15	.18	409	1809	CODE 24
12/07/77		13:45	2.82	.18	410	1810	CODE 24
12/07/77		13:48	2.42	1.02	411	1811	CODE 02
12/07/77		13:53	3.98	.22	412	1812	CODE 12
12/07/77		13:57	3.78	.18	413	1813	CODE 24
12/07/77		14:18	5.82	.18	414	1814	CODE 24
12/07/77		14:19	.82	.38	415	1815	CODE 27
12/07/77		14:24	4.62	.90	416	1816	CODE 02
12/07/77		14:29	4.10	.55	417	1817	CODE 12
12/07/77		14:30	.45	.38	418	1818	CODE 27
12/07/77		14:31	.62	.22	419	1819	CODE 12
12/07/77		14:32	.78	.82	420	1820	CODE 02
12/07/77		14:33	.18	.18	421	1821	CODE 24
12/07/77		14:34	.82	.18	422	1822	CODE 24
12/07/77		14:35	.82	.40	423	1823	CODE 02
12/07/77		14:36	.60	2.38	424	1824	CODE 12
12/07/77		14:41	2.62	.40	425	1825	CODE 12
12/07/77		14:42	.60	.18	426	1826	CODE 24
12/07/77		14:43	.82	.65	427	1827	CODE 02
12/07/77		14:45	1.35	.18	428	1828	CODE 24
12/07/77		14:46	.82	.18	429	1829	CODE 24
12/07/77		14:47	.82	.38	430	1830	CODE 12
12/07/77		14:48	.62	.47	431	1831	CODE 18
12/07/77		14:49	.53	.47	432	1832	CODE 12
12/07/77		14:50	.53	.38	433	1833	CODE 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		14:51	.62	.18	434	1834	CODE 24
12/07/77		14:52	.82	.72	435	1835	CODE 02
12/07/77		14:53	.28	.18	436	1836	CODE 24
12/07/77		14:54	.82	.18	437	1837	CODE 24
12/07/77		14:55	.82	.18	438	1838	CODE 24
12/07/77		14:56	.82	.22	439	1839	CODE 24
12/07/77		14:57	.78	.18	440	1840	CODE 24
12/07/77		14:58	.82	.40	441	1841	CODE 12
12/07/77		14:59	.60	.38	442	1842	CODE 11
12/07/77		15:00	.62	.18	443	1843	CODE 24
12/07/77		15:01	.82	.38	444	1844	CODE 12
12/07/77		15:02	.62	.22	445	1845	CODE 24
12/07/77		15:03	.78	.22	446	1846	CODE 24
12/07/77		15:04	.78	.18	447	1847	CODE 24
12/07/77		15:05	.82	1.00	448	1848	CODE 02
12/07/77		15:08	2.00	.18	449	1849	CODE 24
12/07/77		15:09	.82	.22	450	1850	CODE 27
12/07/77		15:10	.78	.38	451	1851	CODE 12
12/07/77		15:11	.62	.20	452	1852	CODE 24
12/07/77		15:12	.80	.20	453	1853	CODE 24
12/07/77		15:13	.80	.20	454	1854	CODE 24
12/07/77		15:14	.80	.25	455	1855	CODE 24
12/07/77		15:15	.75	.30	456	1856	CODE 27
12/07/77		15:16	.70	.35	457	1857	CODE 12
12/07/77		15:17	.65	.25	458	1858	CODE 27
12/07/77		15:18	.75	2.25	459	1859	CODE 28
12/07/77		15:21	.75	.20	460	1860	CODE 24
12/07/77		15:22	.80	.45	461	1861	CODE 02
12/07/77		15:23	.55	.20	462	1862	CODE 24
12/07/77		15:25	1.80	.20	463	1863	CODE 24
12/07/77		15:26	.80	.25	464	1864	CODE 24
12/07/77		15:27	.75	.20	465	1865	CODE 24
12/07/77		15:28	.80	.55	466	1866	CODE 12
12/07/77		15:30	1.45	.55	467	1867	CODE 12
12/07/77		15:31	.45	1.60	468	1868	CODE 12
12/07/77		15:33	.40	.20	469	1869	CODE 24
12/07/77		15:34	.80	.20	470	1870	CODE 24
12/07/77		15:35	.80	.18	471	1871	CODE 24
12/07/77		15:36	.82	.18	472	1872	CODE 24
12/07/77		15:37	.82	.38	473	1873	CODE 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		15:38	.62	.18	474	1874	CODE 24
12/07/77			END OF SHIFT AT 15:41				
12/08/77	08:01						
12/08/77		08:02	3.82	.72	475	1875	CODE 12
12/08/77		08:03	.28	.77	476	1876	CODE 02
12/08/77		08:04	.23	.82	477	1877	CODE 02
12/08/77		08:06	1.18	.60	478	1878	CODE 12
12/08/77		08:08	1.40	1.22	479	1879	CODE 12
12/08/77		08:11	1.78	.32	480	1880	CODE 27
12/08/77		08:12	.68	.77	481	1881	CODE 11
12/08/77		08:13	.23	.27	482	1882	CODE 24
12/08/77		08:15	1.73	.18	483	1883	CODE 27
12/08/77		08:16	.82	.18	484	1884	CODE 27
12/08/77		08:17	.82	4.02	485	1885	CODE 11
12/08/77		08:25	3.98	.22	486	1886	CODE 18
12/08/77		08:26	.78	.77	487	1887	CODE 02
12/08/77		08:27	.23	.38	488	1888	CODE 05
12/08/77		08:28	.62	.18	489	1889	CODE 24
12/08/77		08:30	1.82	.18	490	1890	CODE 24
12/08/77		08:31	.82	.18	491	1891	CODE 24
12/08/77		08:32	.82	.65	492	1892	CODE 24
12/08/77		08:36	3.35	.32	493	1893	CODE 12
12/08/77		08:37	.68	3.22	494	1894	CODE 28
12/08/77		08:41	.78	.18	495	1895	CODE 24
12/08/77		08:42	.82	.22	496	1896	CODE 27
12/08/77		08:44	1.78	.40	497	1897	CODE 25
12/08/77		08:45	.60	1.07	498	1898	CODE 12
12/08/77		08:47	.93	.18	499	1899	CODE 24
12/08/77		08:48	.82	.18	500	1900	CODE 24
12/08/77		08:49	.82	.27	501	1901	CODE 12
12/08/77		08:51	1.73	.18	502	1902	CODE 27
12/08/77		08:53	1.82	.65	503	1903	CODE 02
12/08/77		08:57	3.35	.22	504	1904	CODE 24
12/08/77		08:59	1.78	.18	505	1905	CODE 27
12/08/77		09:02	2.82	.18	506	1906	CODE 24
12/08/77		09:04	1.82	.40	507	1907	CODE 12
12/08/77		09:07	2.60	.22	508	1908	CODE 27
12/08/77		09:10	2.78	.18	509	1909	CODE 24
12/08/77		09:13	2.82	.18	510	1910	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		09:14	.82	.52	511	1911	CODE 02
12/08/77		09:16	1.48	.18	512	1912	CODE 24
12/08/77		09:17	.82	1.10	513	1913	CODE 25
12/08/77		09:19	.90	.18	514	1914	CODE 24
12/08/77		09:20	.82	.18	515	1915	CODE 27
12/08/77		09:26	5.82	.18	516	1916	CODE 24
12/08/77		09:27	.82	.18	517	1917	CODE 24
12/08/77		09:29	1.82	.22	518	1918	CODE 12
12/08/77		09:30	.78	.38	519	1919	CODE 12
12/08/77		09:31	.62	.27	520	1920	CODE 12
12/08/77		09:35	3.73	.18	521	1921	CODE 24
12/08/77		09:37	1.82	.18	522	1922	CODE 24
12/08/77		09:38	.82	.18	523	1923	CODE 24
12/08/77		09:40	1.82	.18	524	1924	CODE 24
12/08/77		09:41	.82	.18	525	1925	CODE 24
12/08/77		09:42	.82	.60	526	1926	CODE 02
12/08/77		09:43	.40	.18	527	1927	CODE 24
12/08/77		09:47	3.82	.18	528	1928	CODE 24
12/08/77		09:54	6.82	.18	529	1929	CODE 24
12/08/77		09:58	3.82	.18	530	1930	CODE 24
12/08/77		10:18	4.82	.22	531	1931	CODE 27
12/08/77		10:19	.78	.18	532	1932	CODE 24
12/08/77		10:20	.82	.18	533	1933	CODE 24
12/08/77		10:21	.82	.38	534	1934	CODE 02
12/08/77		10:22	.62	.18	535	1935	CODE 24
12/08/77		10:23	.82	.18	536	1936	CODE 24
12/08/77		10:24	.82	.38	537	1937	CODE 02
12/08/77		10:26	1.62	.18	538	1938	CODE 24
12/08/77		10:27	.82	.32	539	1939	CODE 11
12/08/77		10:29	1.68	.90	540	1940	CODE 02
12/08/77		10:30	.10	.38	541	1941	CODE 02
12/08/77		10:31	.62	.27	542	1942	CODE 02
12/08/77		10:32	.73	.18	543	1943	CODE 27
12/08/77		10:33	.82	.18	544	1944	CODE 24
12/08/77		10:34	.82	.18	545	1945	CODE 24
12/08/77		10:35	.82	.55	546	1946	CODE 02
12/08/77		10:36	.45	.18	547	1947	CODE 24
12/08/77		10:37	.82	.18	548	1948	CODE 24
12/08/77		10:38	.82	.18	549	1949	CODE 24
12/08/77		10:39	.82	.82	550	1950	CODE 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		10:40	.18	.18	551	1951	CODE 24
12/08/77		10:42	1.82	.52	552	1952	CODE 02
12/08/77		10:45	2.48	.22	553	1953	CODE 27
12/08/77		10:47	1.78	.65	554	1954	CODE 02
12/08/77		10:52	4.35	.60	555	1955	CODE 02
12/08/77		10:53	.40	.22	556	1956	CODE 27
12/08/77		10:55	1.78	.27	557	1957	CODE 12
12/08/77		10:56	.73	.47	558	1958	CODE 12
12/08/77		10:57	.53	.90	559	1959	CODE 12
12/08/77		10:58	.10	.18	560	1960	CODE 27
12/08/77		11:00	1.82	.18	561	1961	CODE 24
12/08/77		11:02	1.82	.77	562	1962	CODE 27
12/08/77		11:03	.23	.47	563	1963	CODE 12
12/08/77		11:04	.53	.18	564	1964	CODE 24
12/08/77		11:05	.82	.38	565	1965	CODE 12
12/08/77		11:06	.62	.18	566	1966	CODE 24
12/08/77		11:07	.82	.18	567	1967	CODE 24
12/08/77		11:08	.82	1.18	568	1968	CODE 12
12/08/77		11:10	.82	2.32	569	1969	CLUTCH LOCKED UP
12/08/77		11:13	.68	.27	570	1970	CODE 11
12/08/77		11:14	.73	.18	571	1971	CODE 24
12/08/77		11:15	.82	.77	572	1972	CODE 02
12/08/77		11:17	1.23	2.40	573	1973	CODE 11
12/08/77		11:20	.60	.38	574	1974	CODE 12
12/08/77		11:21	.62	1.18	575	1975	CODE 12
12/08/77		11:23	.82	.60	576	1976	CODE 02
12/08/77		11:24	.40	.47	577	1977	CODE 02
12/08/77		11:30	4.77	.18	578	1978	CODE 24
12/08/77		11:32	1.82	.52	579	1979	CODE 02
12/08/77		11:33	.48	.38	580	1980	CODE 02
12/08/77		11:34	.62	.22	581	1981	CODE 18
12/08/77		11:35	.78	.18	582	1982	CODE 24
12/08/77		11:38	2.82	.27	583	1983	CODE 27
12/08/77		11:39	.73	.18	584	1984	CODE 24
12/08/77		11:40	.82	.82	585	1985	CODE 02
12/08/77		11:43	2.18	1.52	586	1986	CODE 16
12/08/77		11:49	4.48	.18	587	1987	CODE 24
12/08/77		11:50	.82	.40	588	1988	CODE 18
12/08/77		11:53	2.60	.18	589	1989	CODE 24
12/08/77		11:57	3.82	.18	590	1990	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		12:34	6.82	.18	591	1991	CODE 24
12/08/77		12:36	1.82	.18	592	1992	CODE 24
12/08/77		12:37	.82	.72	593	1993	CODE 12
12/08/77		12:39	1.28	.52	594	1994	CODE 02
12/08/77		12:40	.48	.27	595	1995	CODE 11
12/08/77		12:41	.73	.18	596	1996	CODE 24
12/08/77		12:42	.82	.60	597	1997	CODE 12
12/08/77		12:43	.40	.18	598	1998	CODE 24
12/08/77		12:44	.82	.18	599	1999	CODE 24
12/08/77		12:45	.82	.18	600	2000	CODE 24
12/08/77		12:46	.82	.18	601	2001	CODE 24
12/08/77		12:47	.82	.47	602	2002	CODE 18
12/08/77		12:48	.53	.38	603	2003	CODE 12
12/08/77		12:49	.62	.32	604	2004	CODE 27
12/08/77		12:50	.68	.32	605	2005	CODE 12
12/08/77		12:52	1.68	.18	606	2006	CODE 24
12/08/77		12:54	1.82	.18	607	2007	CODE 24
12/08/77		12:55	.82	.18	608	2008	CODE 24
12/08/77		12:56	.82	.32	609	2009	CODE 12
12/08/77		12:57	.68	.22	610	2010	CODE 27
12/08/77		12:58	.78	.60	611	2011	CODE 02
12/08/77		13:00	1.40	.18	612	2012	CODE 24
12/08/77		13:01	.82	.18	613	2013	CODE 24
12/08/77		13:02	.82	.18	614	2014	CODE 24
12/08/77		13:03	.82	.18	615	2015	CODE 24
12/08/77		13:04	.82	.82	616	2016	CODE 02
12/08/77		13:05	.18	.18	617	2017	CODE 24
12/08/77		13:06	.82	.38	618	2018	CODE 05
12/08/77		13:07	.62	.18	619	2019	CODE 24
12/08/77		13:09	1.82	1.07	620	2020	CODE 25
12/08/77		13:12	1.93	1.85	621	2021	CODE 12
12/08/77		13:14	.15	.47	622	2022	CODE 02
12/08/77		13:15	.53	.18	623	2023	CODE 24
12/08/77		13:18	2.82	.18	624	2024	CODE 24
12/08/77		13:19	.82	.18	625	2025	CODE 24
12/08/77		13:23	3.82	.32	626	2026	CODE 27
12/08/77		13:25	1.68	.55	627	2027	CODE 12
12/08/77		13:26	.45	.38	628	2028	CODE 12
12/08/77		13:27	.62	.18	629	2029	CODE 24
12/08/77		13:29	1.82	.18	630	2030	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		13:32	2.82	.40	631	2031	CODE 12
12/08/77		13:33	.60	.18	632	2032	CODE 24
12/08/77		13:34	.82	.18	633	2033	CODE 24
12/08/77		13:35	.82	.22	634	2034	CODE 24
12/08/77		13:36	.78	.18	635	2035	CODE 24
12/08/77		13:37	.82	.18	636	2036	CODE 24
12/08/77		13:38	.82	.22	637	2037	CODE 27
12/08/77		13:39	.78	.38	638	2038	CODE 11
12/08/77		13:40	.62	.47	639	2039	CODE 12
12/08/77		13:41	.53	.65	640	2040	CODE 12
12/08/77		13:42	.35	.18	641	2041	CODE 24
12/08/77		13:43	.82	17.22	642	2042	CODE 16
12/08/77		14:20	4.78	.18	643	2043	CODE 24
12/08/77		14:21	.82	.18	644	2044	CODE 24
12/08/77		14:22	.82	.38	645	2045	CODE 24
12/08/77		14:23	.62	.27	646	2046	CODE 12
12/08/77		14:24	.73	3.40	647	2047	CODE 28
12/08/77		14:28	.60	.22	648	2048	CODE 24
12/08/77		14:29	.78	.55	649	2049	CODE 02
12/08/77		14:30	.45	.18	650	2050	CODE 24
12/08/77		14:31	.82	.22	651	2051	CODE 24
12/08/77		14:32	.78	.18	652	2052	CODE 24
12/08/77		14:33	.82	.40	653	2053	CODE 27
12/08/77		14:35	1.60	.18	654	2054	CODE 24
12/08/77		14:36	.82	.27	655	2055	CODE 12
12/08/77		14:37	.73	.72	656	2056	CODE 03
12/08/77		14:38	.28	.60	657	2057	CODE 24
12/08/77		14:39	.40	.90	658	2058	CODE 24
12/08/77		14:41	1.10	1.07	659	2059	CODE 05
12/08/77		14:43	.93	.32	660	2060	CODE 12
12/08/77		14:44	.68	.90	661	2061	CODE 24
12/08/77		14:45	.10	2.18	662	2062	CODE 24
12/08/77		14:48	.82	.90	663	2063	CODE 05
12/08/77		14:49	.10	.18	664	2064	CODE 24
12/08/77		14:50	.82	.55	665	2065	CODE 24
12/08/77		14:51	.45	.22	666	2066	CODE 24
12/08/77		14:52	.78	.18	667	2067	CODE 24
12/08/77		14:53	.82	.27	668	2068	CODE 24
12/08/77		14:54	.73	.27	669	2069	CODE 24
12/08/77		14:55	.73	.27	670	2070	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		14:56	.73	.27	671	2071	CODE 24
12/08/77		14:57	.73	.18	672	2072	CODE 24
12/08/77		14:58	.82	.38	673	2073	CODE 24
12/08/77		14:59	.62	.22	674	2074	CODE 24
12/08/77		15:00	.78	.27	675	2075	CODE 24
12/08/77		15:01	.73	.27	676	2076	CODE 24
12/08/77		15:02	.73	.38	677	2077	CODE 12
12/08/77		15:03	.62	.38	678	2078	CODE 24
12/08/77		15:04	.62	.38	679	2079	CODE 24
12/08/77		15:05	.62	.27	680	2080	CODE 24
12/08/77		15:06	.73	.27	681	2081	CODE 24
12/08/77		15:07	.73	.38	682	2082	CODE 24
12/08/77		15:08	.62	.38	683	2083	CODE 12
12/08/77		15:09	.62	.38	684	2084	CODE 24
12/08/77		15:10	.62	.38	685	2085	CODE 12
12/08/77		15:11	.62	.47	686	2086	CODE 24
12/08/77		15:12	.53	.47	687	2087	CODE 24
12/08/77		15:13	.53	.38	688	2088	CODE 24
12/08/77		15:14	.62	1.82	689	2089	CODE 24
12/08/77		15:22	.97	.55	690	2090	CODE 02
12/08/77		15:23	.45	.72	691	2091	CODE 18
12/08/77		15:24	.28	.22	692	2092	CODE 27
12/08/77		15:25	.78	.27	693	2093	CODE 24
12/08/77		15:27	1.73	.27	694	2094	CODE 24
12/08/77		15:28	.73	.27	695	2095	CODE 24
12/08/77		15:29	.73	.27	696	2096	CODE 24
12/08/77		15:30	.73	.27	697	2097	CODE 24
12/08/77		15:31	.73	.27	698	2098	CODE 24
12/08/77		15:32	.73	.27	699	2099	CODE 24
12/08/77		15:33	.73	.27	700	2100	CODE 24
12/08/77		15:34	.73	.65	701	2101	CODE 12
12/08/77		15:35	.35	.22	702	2102	CODE 24
12/08/77		15:37	1.78	.18	703	2103	CODE 24
12/08/77		15:38	.82	.18	704	2104	CODE 24
12/08/77		15:40	1.82	.38	705	2105	CODE 24
12/08/77		15:41	.62	.32	706	2106	CODE 12
12/08/77		15:42	.68	.22	707	2107	CODE 24
12/08/77		15:43	.78	.18	708	2108	CODE 12
12/08/77		15:44	.82	.18	709	2109	CODE 24
12/08/77		15:45	.82	.18	710	2110	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTO) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		15:47	1.82	.40	711	2111	CODF 24
12/08/77			END OF SHIFT AT 15:48				
12/09/77	08:08						
12/09/77		08:08	.60	.60	712	2112	CODF 12
12/09/77		08:09	.40	1.02	713	2113	CODF 12
12/09/77		08:11	.98	.18	714	2114	CODE 24
12/09/77		08:12	.82	.18	715	2115	CODF 24
12/09/77		08:15	2.82	.47	716	2116	CODF 12
12/09/77		08:16	.53	.38	717	2117	CODF 24
12/09/77		08:17	.62	.32	718	2118	CODF 24
12/09/77		08:18	.68	.18	719	2119	CODF 24
12/09/77		08:20	1.82	.90	720	2120	CODE 24
12/09/77		08:21	.10	.22	721	2121	CODE 11
12/09/77		08:22	.78	.18	722	2122	CODE 24
12/09/77		08:24	1.82	.18	723	2123	COOE 24
12/09/77		08:25	.82	.52	724	2124	CODE 12
12/09/77		08:26	.48	.27	725	2125	CODF 12
12/09/77		08:27	.73	.22	726	2126	CODE 27
12/09/77		08:28	.78	.18	727	2127	CODF 24
12/09/77		08:29	.82	.18	728	2128	CODF 24
12/09/77		08:30	.82	.65	729	2129	CODE 18
12/09/77		08:31	.35	1.07	730	2130	FUZE KNOCKED OFF BY GAGE
12/09/77		08:34	.12	.77	731	2131	COOF 12
12/09/77		08:38	3.23	.27	732	2132	CODE 12
12/09/77		08:40	1.73	.27	733	2133	COOE 24
12/09/77		08:43	2.73	.32	734	2134	CODF 12
12/09/77		08:44	.68	.22	735	2135	CODF 27
12/09/77		08:45	.78	.18	736	2136	CODF 24
12/09/77		08:48	2.82	.18	737	2137	CODF 27
12/09/77		08:50	1.82	.52	738	2138	CODF 11
12/09/77		08:55	4.48	.32	739	2139	CODF 12
12/09/77		08:56	.68	.60	740	2140	COOF 12
12/09/77		08:57	.40	.22	741	2141	COOF 12
12/09/77		08:58	.78	.22	742	2142	COOF 27
12/09/77		08:59	.78	.38	743	2143	COOF 12
12/09/77		09:03	2.52	.18	744	2144	COOF 24
12/09/77		09:05	1.82	.18	745	2145	CODF 24
12/09/77		09:11	5.82	.90	746	2146	COOF 12
12/09/77		09:14	2.10	.22	747	2147	COOF 27

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		09:15	.78	.18	748	2148	CODE 24
12/09/77		09:17	1.82	.22	749	2149	CODE 27
12/09/77		09:18	.78	.22	750	2150	CODE 24
12/09/77		09:20	1.78	.18	751	2151	CODE 24
12/09/77		09:21	.82	.18	752	2152	CODE 24
12/09/77		09:23	1.82	1.38	753	2153	CODE 12
12/09/77		09:28	3.62	.18	754	2154	CODE 24
12/09/77		09:29	.82	.27	755	2155	CODE 27
12/09/77		09:30	.73	.32	756	2156	CODE 12
12/09/77		09:32	1.68	.18	757	2157	CODE 24
12/09/77		09:35	2.82	.38	758	2158	CODE 12
12/09/77		09:37	1.62	.82	759	2159	CODE 12
12/09/77		09:39	1.18	.18	760	2160	CODE 24
12/09/77		09:41	1.82	.22	761	2161	CODE 24
12/09/77		09:42	.78	.18	762	2162	CODE 24
12/09/77		09:44	1.82	.18	763	2163	CODE 24
12/09/77		09:49	4.82	.52	764	2164	CODE 12
12/09/77		09:52	2.48	.27	765	2165	CODE 27
12/09/77		10:17	9.73	.38	766	2166	CODE 12
12/09/77		10:19	1.62	.18	767	2167	CODE 24
12/09/77		10:20	.82	.22	768	2168	CODE 24
12/09/77		10:24	3.78	.18	769	2169	CODE 24
12/09/77		10:27	2.82	.22	770	2170	CODE 24
12/09/77		10:28	.78	.22	771	2171	CODE 24
12/09/77		10:30	1.78	.18	772	2172	CODE 24
12/09/77		10:31	.82	.22	773	2173	CODE 24
12/09/77		10:32	.78	.42	774	2174	CODE 12
12/09/77		10:33	.58	.18	775	2175	CODE 24
12/09/77		10:34	.82	.18	776	2176	CODE 24
12/09/77		10:35	.82	.32	777	2177	CODE 12
12/09/77		10:36	.68	2.00	778	2178	CODE 25
12/09/77		10:38	0.00	.22	779	2179	CODE 24
12/09/77		10:39	.78	.18	780	2180	CODE 24
12/09/77		10:40	.82	.22	781	2181	CODE 24
12/09/77		10:41	.78	.18	782	2182	CODE 24
12/09/77		10:42	.82	.18	783	2183	CODE 24
12/09/77		10:43	.82	.38	784	2184	CODE 24
12/09/77		10:44	.62	.22	785	2185	CODE 27
12/09/77		10:45	.78	.18	786	2186	CODE 24
12/09/77		10:46	.82	.52	787	2187	CODE 03

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		10:47	.48	2.00	788	2188	CODE 24
12/09/77		10:49	0.00	.28	789	2189	CODE 24
12/09/77		10:50	.72	.18	790	2190	CODE 24
12/09/77		10:51	.82	.22	791	2191	CODE 24
12/09/77		10:52	.78	.18	792	2192	CODE 24
12/09/77		10:53	.82	.18	793	2193	CODE 24
12/09/77		10:54	.82	.22	794	2194	CODE 24
12/09/77		10:55	.78	.18	795	2195	CODE 24
12/09/77		10:56	.82	1.07	796	2196	CODE 12
12/09/77		10:58	.93	.18	797	2197	CODE 24
12/09/77		10:59	.82	.22	798	2198	CODE 27
12/09/77		11:00	.78	.18	799	2199	CODE 24
12/09/77		11:01	.82	.18	800	2200	CODE 24
12/09/77		11:02	.82	.18	801	2201	CODE 24
12/09/77		11:03	.82	.18	802	2202	CODE 24
12/09/77		11:04	.82	.22	803	2203	CODE 24
12/09/77		11:05	.78	2.82	804	2204	CODE 24
12/09/77		11:08	.18	.18	805	2205	CODE 24
12/09/77		11:09	.82	.18	806	2206	CODE 24
12/09/77		11:10	.82	.27	807	2207	CODE 27
12/09/77		11:12	1.73	.32	808	2208	CODE 12
12/09/77		11:13	.68	.18	809	2209	CODE 24
12/09/77		11:15	1.82	.82	810	2210	CODE 25
12/09/77		11:17	1.18	.40	811	2211	CODE 11
12/09/77		11:19	1.60	.22	812	2212	CODE 27
12/09/77		11:20	.78	.18	813	2213	CODE 24
12/09/77		11:22	1.82	.47	814	2214	CODE 02
12/09/77		11:25	2.53	.18	815	2215	CODE 24
12/09/77		11:27	1.82	.18	816	2216	CODE 24
12/09/77		11:31	3.82	.32	817	2217	CODE 27
12/09/77		11:32	.68	.18	818	2218	CODE 24
12/09/77		11:37	4.82	.18	819	2219	CODE 24
12/09/77		11:40	2.82	.40	820	2220	CODE 12
12/09/77		11:41	.60	.18	821	2221	CODE 24
12/09/77		11:45	3.82	.18	822	2222	CODE 24
12/09/77		11:49	3.82	.18	823	2223	CODE 24
12/09/77		11:50	.82	.32	824	2224	CODE 27
12/09/77		11:57	6.68	.18	825	2225	CODE 24
12/09/77		12:32	4.82	.27	826	2226	CODE 24
12/09/77		12:34	1.73	.22	827	2227	CODE 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTO) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		12:36	1.78	.18	828	2228	COOE 24
12/09/77		12:37	.82	.38	829	2229	COOF 11
12/09/77		12:38	.62	.18	830	2230	COOE 24
12/09/77		12:39	.82	.22	831	2231	COOE 24
12/09/77		12:40	.78	.18	832	2232	COOE 24
12/09/77		12:41	.82	.32	833	2233	COOE 11
12/09/77		12:42	.68	.18	834	2234	COOE 24
12/09/77		12:43	.82	.82	835	2235	COOE 24
12/09/77		12:44	.18	.22	836	2236	FUZE KNOCKED OFF BY GAGE
12/09/77		12:45	.78	.38	837	2237	COOF 11
12/09/77		12:46	.62	.18	838	2238	COOE 24
12/09/77		12:47	.82	.38	839	2239	CODE 18
12/09/77		12:48	.62	.22	840	2240	COOE 27
12/09/77		12:49	.78	.27	841	2241	COOE 24
12/09/77		12:51	1.73	.27	842	2242	COOE 24
12/09/77		12:52	.73	.90	843	2243	COOE 24
12/09/77		12:53	.10	.18	844	2244	COOE 24
12/09/77		12:55	1.82	.18	845	2245	COOE 24
12/09/77		13:02	3.10	.22	846	2246	COOF 24
12/09/77		13:03	.78	.38	847	2247	CODE 24
12/09/77		13:07	3.62	.18	848	2248	COOF 24
12/09/77		13:10	2.82	.32	849	2249	COOE 24
12/09/77		13:12	1.68	.32	850	2250	COOE 27
12/09/77		13:14	1.68	15.73	851	2251	COOF 16
12/09/77		13:33	3.27	.60	852	2252	CODE 18
12/09/77		13:34	.40	7.38	853	2253	COOF 16
12/09/77		13:42	.62	.47	854	2254	COOE 18
12/09/77		13:44	1.53	4.55	855	2255	COOF 16
12/09/77		13:49	.45	.18	856	2256	CODE 24
12/09/77		13:50	.82	.65	857	2257	CODE 24
12/09/77		13:51	.35	.18	858	2258	COOF 24
12/09/77		13:52	.82	.18	859	2259	CODE 24
12/09/77		13:53	.82	.55	860	2260	COOF 12
12/09/77		13:54	.45	.40	861	2261	COOE 11
12/09/77		13:57	2.60	1.10	862	2262	COOF 12
12/09/77		14:16	2.90	.18	863	2263	COOE 24
12/09/77		14:17	.82	.22	864	2264	CODE 27
12/09/77		14:19	1.78	.18	865	2265	CODE 24
12/09/77		14:20	.82	.22	866	2266	COOF 24
12/09/77		14:21	.78	.40	867	2267	CODE 18

MOODULE 5 = FUZF ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		14:24	2.60	.32	868	2268	CODF 12
12/09/77		14:26	1.68	.18	869	2269	CODF 24
12/09/77		14:27	.82	.18	870	2270	CODF 24
12/09/77		14:28	.82	.18	871	2271	COOF 24
12/09/77		14:30	1.82	2.47	872	2272	CODF 25
12/09/77		14:33	.53	.18	873	2273	COOF 25
12/09/77		14:34	.82	.47	874	2274	CODF 12
12/09/77		14:36	1.53	.32	875	2275	COOF 25
12/09/77		14:37	.68	.27	876	2276	CODF 11
12/09/77		14:38	.73	.82	877	2277	COOF 12
12/09/77		14:39	.18	.18	878	2278	CODF 24
12/09/77		14:40	.82	.18	879	2279	COOF 24
12/09/77		14:41	.82	.18	880	2280	CODF 24
12/09/77		14:42	.82	.22	881	2281	COOF 24
12/09/77		14:51	2.68	.38	882	2282	COOF 12
12/09/77		14:52	.62	.22	883	2283	CODF 27
12/09/77		14:53	.78	.27	884	2284	CODF 24
12/09/77		14:54	.73	.40	885	2285	CODF 12
12/09/77		14:55	.60	.47	886	2286	CODF 12
12/09/77		14:57	1.53	.52	887	2287	CODF 12
12/09/77		14:59	1.48	.18	888	2288	CODF 24
12/09/77		15:00	.82	.18	889	2289	COOF 24
12/09/77		15:01	.82	.72	890	2290	CODF 25
12/09/77		15:02	.28	.22	891	2291	CODF 24
12/09/77		15:03	.78	.60	892	2292	CODF 12
12/09/77		15:05	1.40	.18	893	2293	COOF 24
12/09/77		15:06	.82	.18	894	2294	CODF 24
12/09/77		15:08	1.82	.55	895	2295	CODF 11
12/09/77		15:09	.45	.18	896	2296	CODF 24
12/09/77		15:10	.82	.32	897	2297	CODF 12
12/09/77		15:11	.68	.47	898	2298	CODF 12
12/09/77		15:12	.53	.32	899	2299	CODF 12
12/09/77		15:13	.68	.38	900	2300	CODF 12
12/09/77		15:14	.62	.18	901	2301	CODF 24
12/09/77		15:15	.82	.27	902	2302	CODF 12
12/09/77		15:17	1.73	.18	903	2303	CODF 24
12/09/77		15:19	1.82	.38	904	2304	CODF 12
12/09/77		15:20	.62	.18	905	2305	CODF 24
12/09/77		15:21	.82	.18	906	2306	CODF 24
12/09/77		15:22	.82	.22	907	2307	CODF 27

MODULE 6 = FUZE ASSEMBLY STATION 6 STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77		08:02	2.00	5.40	1	2309	CODE 12
11/28/77		08:08	.60	6.00	2	2310	CODE 12
11/28/77		08:15	1.00	.28	3	2311	CODE 24
11/28/77		08:16	.72	1.77	4	2312	CODE 16
11/28/77		08:22	4.23	1.00	5	2313	CODE 02
11/28/77		08:24	1.00	.53	6	2314	CODE 12
11/28/77		08:27	2.47	4.63	7	2315	ADJUST MACHINE TIMING
11/28/77		08:41	9.37	1.12	8	2316	CODE 11
11/28/77		08:45	2.88	.43	9	2317	CODE 02
11/28/77		08:52	6.57	.47	10	2318	CODE 12
11/28/77		08:56	3.53	.27	11	2319	CODE 02
11/28/77		09:01	4.73	2.58	12	2320	CODE 25
11/28/77		09:15	11.42	.55	13	2321	CODE 11
11/28/77		09:22	6.45	1.40	14	2322	CODE 11
11/28/77		09:28	4.60	.65	15	2323	CODE 18
11/28/77		09:37	8.35	1.20	16	2324	CODE 12
11/28/77		09:39	.80	.47	17	2325	CODE 12
11/28/77		09:42	2.53	2.28	18	2326	CODE 11
11/28/77		10:23	38.72	.52	19	2327	CODE 12
11/28/77		10:26	2.48	.37	20	2328	CODE 24
11/28/77		10:34	7.63	.37	21	2329	CODE 18
11/28/77		10:35	.63	1.77	22	2330	CODE 02
11/28/77		10:39	2.23	.45	23	2331	CODE 12
11/28/77		10:43	3.55	.43	24	2332	CODE 12
11/28/77		12:30	9.57	8.20	25	2333	CODE 11
11/28/77		12:40	1.80	.62	26	2334	CODE 02
11/28/77		12:43	2.38	.58	27	2335	CODE 12
11/28/77		12:44	.42	1.20	28	2336	CODE 11
11/28/77		12:47	1.80	.47	29	2337	CODE 24
11/28/77		12:52	4.53	.37	30	2338	CODE 18
11/28/77		12:57	4.63	.35	31	2339	CODE 18
11/28/77		13:21	23.65	1.20	32	2340	CODE 12
11/28/77		13:28	5.80	.87	33	2341	CODE 18
11/28/77		13:30	1.13	.55	34	2342	CODE 02
11/28/77		13:35	4.45	.30	35	2343	CODE 11
11/28/77		13:36	.70	2.65	36	2344	CODE 11
11/28/77		13:40	1.35	1.82	37	2345	CODE 02
11/28/77		13:49	7.18	.27	38	2346	CODE 02
11/28/77		14:20	15.73	.52	39	2347	CODE 11

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77		14:21	.48	.63	40	2348	CODE 11
11/28/77		14:24	2.37	8.22	41	2349	CODE 11
11/28/77		14:34	1.78	.80	42	2350	CODE 21
11/28/77		14:35	.20	1.58	43	2351	CODE 21
11/28/77		14:45	8.42	4.80	44	2352	CODE 11
11/28/77		15:42	10.80	.20	45	2353	CODE 03
11/28/77			END OF SHIFT AT 15:50				
11/29/77	08:00						
11/29/77		08:06	12.60	.32	46	2354	CODE 02
11/29/77		08:17	10.68	.22	47	2355	CODE 12
11/29/77		08:26	8.78	.40	48	2356	CODE 12
11/29/77		08:38	11.60	2.20	49	2357	CODE 12
11/29/77		08:49	8.80	.27	50	2358	CODE 12
11/29/77		08:56	6.73	1.00	51	2359	CODE 11
11/29/77		09:11	14.00	.30	52	2360	CODE 02
11/29/77		09:14	2.70	.37	53	2361	CODE 24
11/29/77		09:17	2.63	.53	54	2362	CODE 12
11/29/77		09:34	16.47	.43	55	2363	CODE 12
11/29/77		09:40	5.57	.47	56	2364	CODE 12
11/29/77		10:56	59.98	.27	57	2365	CODE 18
11/29/77		11:37	40.73	1.20	58	2366	CODE 18
11/29/77		12:38	57.88	1.92	59	2367	CODE 11
11/29/77		12:46	6.08	.32	60	2368	CODE 18
11/29/77		12:54	7.68	.30	61	2369	CODE 12
11/29/77		13:02	7.70	.22	62	2370	CODE 12
11/29/77		13:05	2.78	.22	63	2371	CODE 24
11/29/77		13:09	3.78	.67	64	2372	CODE 12
11/29/77		13:13	3.33	.40	65	2373	CODE 02
11/29/77		13:17	3.60	.50	66	2374	CODE 12
11/29/77		13:18	.50	.57	67	2375	CODE 28
11/29/77		13:34	15.43	.47	68	2376	CODE 12
11/29/77		13:37	2.53	.52	69	2377	CODE 24
11/29/77		14:16	23.48	.55	70	2378	CODE 12
11/29/77		14:37	20.45	.53	71	2379	CODE 12
11/29/77		14:38	.47	.33	72	2380	CODE 12
11/29/77		14:44	5.67	1.05	73	2381	CODE 02
11/29/77		14:50	4.95	1.10	74	2382	CODE 12
11/29/77		15:00	8.90	.92	75	2383	CODE 12
11/29/77		15:04	3.08	.30	76	2384	CODE 02

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77		15:11	6.70	.28	77	2385	CODE 02
11/29/77		15:12	.72	.33	78	2386	CODE 11
11/29/77		15:30	17.67	1.28	79	2387	CODE 12
11/29/77			END OF SHIFT AT 15:50				
11/30/77	08:00						
11/30/77		08:02	20.72	.25	80	2388	CODE 02
11/30/77		08:15	12.75	.25	81	2389	CODE 02
11/30/77		08:17	1.75	.63	82	2390	CODE 12
11/30/77		08:19	1.37	1.27	83	2391	CODE 12
11/30/77		08:24	3.73	.57	84	2392	CODE 24
11/30/77		08:29	4.43	.55	85	2393	CODE 12
11/30/77		08:34	4.45	.85	86	2394	CODE 24
11/30/77		08:40	5.15	.25	87	2395	CODE 24
11/30/77		08:41	.75	1.05	88	2396	CODE 24
11/30/77		08:43	.95	.80	89	2397	CODE 12
11/30/77		08:46	2.20	.63	90	2398	CODE 12
11/30/77		08:55	4.73	.43	91	2399	CODE 24
11/30/77		08:56	.57	.63	92	2400	CODE 12
11/30/77		08:57	.37	1.13	93	2401	CODE 12
11/30/77		09:01	2.87	1.58	94	2402	CODE 12
11/30/77		09:03	.42	.68	95	2403	CODE 12
11/30/77		09:06	2.32	.33	96	2404	CODE 24
11/30/77		09:12	5.67	.25	97	2405	CODE 24
11/30/77		09:13	.75	.22	98	2406	CODE 24
11/30/77		09:18	4.78	.23	99	2407	CODE 24
11/30/77		09:22	3.77	.22	100	2408	CODE 24
11/30/77		09:25	2.78	.33	101	2409	CODE 12
11/30/77		09:38	6.62	.47	102	2410	CODE 03
11/30/77		09:39	.53	.40	103	2411	CODE 27
11/30/77		10:18	23.60	1.50	104	2412	CODE 11
11/30/77		10:21	1.50	.37	105	2413	CODE 18
11/30/77		10:23	1.63	.40	106	2414	CODE 12
11/30/77		10:26	2.60	.22	107	2415	CODE 24
11/30/77		10:27	.78	.32	108	2416	CODE 24
11/30/77		10:28	.68	.35	109	2417	CODE 12
11/30/77		10:30	1.65	2.55	110	2418	CODE 13
11/30/77		10:33	.45	2.97	111	2419	CODE 13
11/30/77		10:37	1.03	.38	112	2420	CODE 12
11/30/77		10:41	3.62	.33	113	2421	CODE 24

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		10:46	3.15	.55	114	2422	CODE 24
11/30/77		10:53	6.45	.33	115	2423	CODE 24
11/30/77		10:54	.67	.43	116	2424	CODE 12
11/30/77		10:57	2.57	1.07	117	2425	CODE 02
11/30/77		11:13	7.00	.25	118	2426	CODE 02
11/30/77		11:19	5.75	.37	119	2427	CODE 02
11/30/77		11:21	1.63	.88	120	2428	CODE 12
11/30/77		11:27	5.12	.25	121	2429	CODE 12
11/30/77		11:32	4.75	.25	122	2430	CODE 24
11/30/77		11:33	.75	.57	123	2431	CODE 02
11/30/77		11:34	.43	.25	124	2432	CODE 24
11/30/77		11:35	.75	.37	125	2433	CODE 24
11/30/77		11:40	4.63	2.05	126	2434	CODE 12
11/30/77		11:44	1.95	.77	127	2435	CODE 24
11/30/77		11:46	1.23	1.05	128	2436	CODE 24
11/30/77		11:48	.95	.63	129	2437	CODE 24
11/30/77		11:50	1.37	.42	130	2438	CODE 02
11/30/77		11:55	4.58	1.05	131	2439	CODE 02
11/30/77		12:35	8.95	.80	132	2440	CODE 12
11/30/77		12:36	.20	.93	133	2441	CODE 02
11/30/77		12:46	9.07	.37	134	2442	CODE 02
11/30/77		12:47	.63	.25	135	2443	CODE 24
11/30/77		12:49	1.75	1.20	136	2444	CODE 12
11/30/77		12:51	.80	.37	137	2445	CODE 02
11/30/77		12:52	.63	.25	138	2446	CODE 24
11/30/77		12:53	.75	.23	139	2447	CODE 24
11/30/77		12:55	1.77	.22	140	2448	CODE 02
11/30/77		12:56	.78	.25	141	2449	CODE 24
11/30/77		12:57	.75	.25	142	2450	CODE 24
11/30/77		12:58	.75	.28	143	2451	CODE 24
11/30/77		12:59	.72	.27	144	2452	CODE 02
11/30/77		13:00	.73	.63	145	2453	CODE 12
11/30/77		13:01	.37	.27	146	2454	CODE 24
11/30/77		13:03	1.73	.65	147	2455	CODE 02
11/30/77		13:04	.35	.33	148	2456	CODE 02
11/30/77		13:05	.67	.58	149	2457	CODE 02
11/30/77		13:06	.42	.80	150	2458	CODE 12
11/30/77		13:10	3.20	1.80	151	2459	CODE 02
11/30/77		13:12	.20	.27	152	2460	CODE 24
11/30/77		13:13	.73	.28	153	2461	CODE 24

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		13:14	.72	.23	154	2462	CODE 02
11/30/77		13:15	.77	.30	155	2463	COOF 24
11/30/77		13:23	7.70	.22	156	2464	CODE 12
11/30/77		13:24	.78	.33	157	2465	COOF 12
11/30/77		13:25	.67	.27	158	2466	CODE 12
11/30/77		13:26	.73	1.10	159	2467	COOF 24
11/30/77		13:28	.90	.22	160	2468	CODE 24
11/30/77		13:32	3.78	.80	161	2469	CODE 12
11/30/77		13:33	.20	.27	162	2470	CODE 24
11/30/77		13:40	6.73	.53	163	2471	COOF 03
11/30/77		13:43	2.47	.47	164	2472	CODE 12
11/30/77		13:45	1.53	.28	165	2473	COOF 24
11/30/77		13:47	1.72	.30	166	2474	COOF 12
11/30/77		13:52	4.70	1.25	167	2475	CODE 12
11/30/77		14:24	15.75	.25	168	2476	CODE 24
11/30/77		14:25	.75	.23	169	2477	CODE 24
11/30/77		14:26	.77	.30	170	2478	CODE 12
11/30/77		14:30	3.70	.32	171	2479	CODE 02
11/30/77		14:31	.68	.27	172	2480	CODE 24
11/30/77		14:33	1.73	.32	173	2481	CODE 24
11/30/77		14:34	.68	.35	174	2482	CODE 24
11/30/77		14:36	1.65	.40	175	2483	COOF 08
11/30/77		14:38	1.60	.27	176	2484	COOE 12
11/30/77		14:40	1.73	.40	177	2485	COOE 12
11/30/77		14:43	2.60	.37	178	2486	CODE 12
11/30/77		14:45	1.63	.38	179	2487	COOE 11
11/30/77		14:48	2.62	.30	180	2488	COOE 12
11/30/77		14:49	.70	.40	181	2489	CODE 24
11/30/77		14:54	4.60	1.07	182	2490	CODE 12
11/30/77		14:57	1.93	1.15	183	2491	COOF 12
11/30/77		14:59	.85	.80	184	2492	COOF 02
11/30/77		15:00	.20	2.30	185	2493	CODE 12
11/30/77		15:04	1.70	.32	186	2494	COOF 24
11/30/77		15:05	.68	.75	187	2495	COOF 12
11/30/77		15:07	1.25	.32	188	2496	COOF 12
11/30/77		15:08	.68	2.00	189	2497	COOE 12
11/30/77		15:12	2.00	1.25	190	2498	COOF 02
11/30/77		15:21	7.75	.27	191	2499	COOF 24
11/30/77		15:22	.73	.25	192	2500	COOF 24
11/30/77		15:24	1.75	.43	193	2501	CODE 12

MOOULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULE FAILURE NUMBER	SYSTEM FAILUPE NUMBER	FAILURE MODE
11/30/77		15:25	.57	1.25	194	2502	CODE 12
11/30/77		15:28	1.75	.25	195	2503	CODE 24
11/30/77		15:30	1.75	.93	196	2504	COOF 12
11/30/77		15:31	.07	.43	197	2505	CODE 03
11/30/77		15:33	1.57	.43	198	2506	COOF 24
11/30/77		15:34	.57	.28	199	2507	COOF 12
11/30/77		15:35	.72	.93	200	2508	COOF 12
11/30/77		15:36	.07	.68	201	2509	COOF 12
11/30/77		15:37	.32	.25	202	2510	COOE 12
11/30/77		15:38	.75	.22	203	2511	CODF 24
11/30/77		15:43	4.78	.38	204	2512	COOE 12
11/30/77		15:44	.62	.25	205	2513	CODF 12
11/30/77		15:47	2.75	.42	206	2514	CODF 12
11/30/77			END OF SHIFT AT 15:50				
12/01/77	08:00						
12/01/77		08:04	6.58	.27	207	2515	COOF 24
12/01/77		08:08	3.73	.25	208	2516	CODF 02
12/01/77		08:11	2.75	.45	209	2517	CODF 27
12/01/77		08:13	1.55	.53	210	2518	CODE 12
12/01/77		08:16	2.47	.22	211	2519	CODE 24
12/01/77		08:17	.78	.32	212	2520	COOE 24
12/01/77		08:26	8.68	.20	213	2521	CODF 27
12/01/77		08:27	.80	.23	214	2522	COOF 24
12/01/77		08:28	.77	.25	215	2523	CODF 24
12/01/77		08:29	.75	.22	216	2524	CODF 02
12/01/77		08:30	.78	.27	217	2525	CODF 24
12/01/77		08:33	2.73	.20	218	2526	CODF 24
12/01/77		08:38	2.05	.45	219	2527	CODF 17
12/01/77		08:39	.55	.23	220	2528	CODF 24
12/01/77		08:41	1.77	.37	221	2529	COOF 24
12/01/77		08:43	1.63	.52	222	2530	CODF 24
12/01/77		08:45	1.48	.30	223	2531	CODF 12
12/01/77		08:46	.70	.23	224	2532	CODF 24
12/01/77		08:47	.77	.22	225	2533	CODE 24
12/01/77		08:48	.78	.32	226	2534	CODF 24
12/01/77		08:49	.68	.47	227	2535	CODF 24
12/01/77		08:54	4.53	.22	228	2536	CODF 24
12/01/77		08:55	.78	.22	229	2537	CODF 24
12/01/77		08:56	.78	.37	230	2538	CODF 24

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		08:58	1.63	.57	231	2539	CODE 12
12/01/77		08:59	.43	.35	232	2540	CODE 24
12/01/77		09:03	3.65	.27	233	2541	CODE 24
12/01/77		09:04	.73	.25	234	2542	CODE 24
12/01/77		09:19	14.75	.30	235	2543	CODE 24
12/01/77		09:23	3.70	.25	236	2544	CODE 24
12/01/77		09:24	.75	.25	237	2545	CODE 24
12/01/77		09:25	.75	.27	238	2546	CODE 02
12/01/77		09:26	.73	.25	239	2547	CODE 24
12/01/77		09:27	.75	.20	240	2548	CODE 02
12/01/77		09:28	.80	.23	241	2549	CODE 02
12/01/77		09:29	.77	.23	242	2550	CODE 03
12/01/77		09:30	.77	.27	243	2551	CODE 24
12/01/77		09:31	.73	.38	244	2552	CODE 24
12/01/77		09:32	.62	.17	245	2553	CODE 02
12/01/77		09:34	1.83	.43	246	2554	CODE 24
12/01/77		09:36	1.57	.27	247	2555	CODE 24
12/01/77		09:37	.73	.28	248	2556	CODE 24
12/01/77		09:38	.72	.27	249	2557	CODE 02
12/01/77		09:39	.73	.42	250	2558	CODE 24
12/01/77		09:40	.58	.45	251	2559	CODE 24
12/01/77		09:42	1.55	1.05	252	2560	CODE 02
12/01/77		09:44	.95	1.22	253	2561	CODE 24
12/01/77		09:46	.78	.70	254	2562	CODE 24
12/01/77		09:47	.30	.32	255	2563	CODE 02
12/01/77		09:48	.68	.37	256	2564	CODE 02
12/01/77		10:16	12.63	.80	257	2565	CODE 12
12/01/77		10:22	5.20	.52	258	2566	CODE 24
12/01/77		10:23	.48	.25	259	2567	CODE 24
12/01/77		10:24	.75	.53	260	2568	CODE 24
12/01/77		10:25	.47	.28	261	2569	CODE 24
12/01/77		10:28	2.72	.22	262	2570	CODE 24
12/01/77		10:29	.78	.27	263	2571	CODE 24
12/01/77		10:31	1.73	.27	264	2572	CODE 24
12/01/77		10:34	2.73	.37	265	2573	CODE 24
12/01/77		10:35	.63	.13	266	2574	CODE 14
12/01/77		10:39	3.87	.75	267	2575	CODE 24
12/01/77		10:40	.25	.22	268	2576	CODE 02
12/01/77		10:41	.78	.22	269	2577	CODE 24
12/01/77		10:42	.78	.27	270	2578	CODE 02

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		10:43	.73	.40	271	2579	CODE 24
12/01/77		10:44	.60	.45	272	2580	CODE 24
12/01/77		10:47	2.55	.50	273	2581	CODE 24
12/01/77		10:51	3.50	2.23	274	2582	CODE 12
12/01/77		10:55	1.77	.28	275	2583	CODE 24
12/01/77		10:56	.72	.22	276	2584	CODE 24
12/01/77		10:58	1.78	.23	277	2585	CODE 24
12/01/77		10:59	.77	.32	278	2586	CODE 24
12/01/77		11:00	.68	1.02	279	2587	CODE 12
12/01/77		11:02	.98	2.77	280	2588	CODE 12
12/01/77		11:05	.23	.28	281	2589	CODE 12
12/01/77		11:06	.72	.38	282	2590	CODE 24
12/01/77		11:07	.62	.18	283	2591	CODE 24
12/01/77		11:08	.82	.25	284	2592	CODE 02
12/01/77		11:09	.75	.33	285	2593	CODE 02
12/01/77		11:10	.67	.55	286	2594	CODE 24
12/01/77		11:13	2.45	.23	287	2595	CODE 24
12/01/77		11:18	4.77	.27	288	2596	CODE 24
12/01/77		11:20	1.73	.28	289	2597	CODE 12
12/01/77		11:21	.72	.13	290	2598	CODE 02
12/01/77		11:24	2.87	.53	291	2599	CODE 12
12/01/77		11:26	1.47	.27	292	2600	CODE 24
12/01/77		11:27	.73	.22	293	2601	CODE 02
12/01/77		11:28	.78	.25	294	2602	CODE 24
12/01/77		11:32	3.75	.27	295	2603	CODE 24
12/01/77		11:35	2.73	.42	296	2604	CODE 12
12/01/77		11:38	2.58	.28	297	2605	CODE 24
12/01/77		11:40	1.72	.83	298	2606	CODE 12
12/01/77		11:43	2.17	.27	299	2607	CODE 24
12/01/77		11:45	1.73	.63	300	2608	CODE 02
12/01/77		11:51	5.37	.25	301	2609	CODE 24
12/01/77		12:31	9.75	.28	302	2610	CODE 24
12/01/77		12:33	1.72	.30	303	2611	CODE 02
12/01/77		12:34	.70	.25	304	2612	CODE 02
12/01/77		12:35	.75	.25	305	2613	CODE 24
12/01/77		12:36	.75	.23	306	2614	CODE 02
12/01/77		12:37	.77	.28	307	2615	CODE 24
12/01/77		12:38	.72	.27	308	2616	CODE 02
12/01/77		12:40	1.73	.23	309	2617	CODE 24
12/01/77		12:43	2.77	.22	310	2618	CODE 24

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		12:44	.78	.28	311	2619	CODE 02
12/01/77		12:50	5.72	.22	312	2620	CODE 24
12/01/77		12:51	.78	.27	313	2621	CODE 12
12/01/77		12:52	.73	.23	314	2622	CODE 24
12/01/77		12:53	.77	.57	315	2623	CODE 12
12/01/77		12:54	.43	.35	316	2624	CODE 02
12/01/77		12:55	.65	.53	317	2625	CODE 12
12/01/77		12:56	.47	.25	318	2626	CODE 24
12/01/77		12:57	.75	.25	319	2627	CODE 02
12/01/77		12:58	.75	.40	320	2628	CODE 24
12/01/77		13:02	3.60	.35	321	2629	CODE 02
12/01/77		13:03	.65	.32	322	2630	CODE 02
12/01/77		13:04	.68	.25	323	2631	CODE 24
12/01/77		13:05	.75	.28	324	2632	CODE 02
12/01/77		13:08	2.72	.32	325	2633	CODE 24
12/01/77		13:09	.68	.20	326	2634	CODE 24
12/01/77		13:11	1.80	1.05	327	2635	CODE 12
12/01/77		13:13	.95	.23	328	2636	CODE 12
12/01/77		13:16	2.77	.28	329	2637	CODE 24
12/01/77		13:23	6.72	.20	330	2638	CODE 24
12/01/77		13:31	7.80	.32	331	2639	CODE 24
12/01/77		13:32	.68	.37	332	2640	CODE 02
12/01/77		13:34	1.63	.32	333	2641	CODE 12
12/01/77		13:36	1.68	.33	334	2642	CODE 18
12/01/77		13:38	1.67	.28	335	2643	CODE 14
12/01/77		13:39	.72	.20	336	2644	CODE 02
12/01/77		13:40	.80	.25	337	2645	CODE 24
12/01/77		13:41	.75	.63	338	2646	CODE 24
12/01/77		13:42	.37	.20	339	2647	CODE 02
12/01/77		13:43	.80	2.92	340	2648	CODE 02
12/01/77		13:48	2.08	.33	341	2649	CODE 24
12/01/77		13:53	4.67	.40	342	2650	CODE 24
12/01/77		14:24	15.60	.25	343	2651	CODE 24
12/01/77		14:29	4.75	.33	344	2652	CODE 12
12/01/77		14:34	4.67	.33	345	2653	CODE 24
12/01/77		14:38	3.67	.37	346	2654	CODE 12
12/01/77		14:52	13.63	1.05	347	2655	CODE 18
12/01/77		14:54	.95	.93	348	2656	CODE 11
12/01/77		14:55	.07	.43	349	2657	CODE 11
12/01/77		14:58	2.57	.28	350	2658	CODE 12

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		14:59	.72	.43	351	2659	CODE 02
12/01/77		15:01	1.57	.28	352	2660	CODE 24
12/01/77		15:03	1.72	.75	353	2661	CODE 12
12/01/77		15:04	.25	.88	354	2662	CODE 12
12/01/77		15:22	2.12	.20	355	2663	CODE 24
12/01/77		15:24	1.80	.25	356	2664	CODE 24
12/01/77		15:25	.75	.25	357	2665	CODE 24
12/01/77		15:26	.75	.28	358	2666	CODE 02
12/01/77		15:27	.72	.40	359	2667	CODE 24
12/01/77		15:28	.60	.25	360	2668	CODE 24
12/01/77		15:29	.75	.83	361	2669	CODE 02
12/01/77		15:31	1.17	.33	362	2670	CODE 24
12/01/77		15:33	1.67	.43	363	2671	CODE 12
12/01/77		15:40	6.57	.28	364	2672	CODE 24
12/01/77		15:43	2.72	1.93	365	2673	CODE 12
12/01/77			END OF SHIFT AT 15:50				
12/02/77	08:00						
12/02/77		08:09	14.07	.25	366	2674	CODE 12
12/02/77		08:10	.75	.27	367	2675	CODE 24
12/02/77		08:13	2.73	.25	368	2676	CODE 24
12/02/77		08:21	7.75	.28	369	2677	CODE 24
12/02/77		08:24	2.72	.22	370	2678	CODE 24
12/02/77		08:29	4.78	2.72	371	2679	CODE 12
12/02/77		08:36	4.28	.33	372	2680	CODE 24
12/02/77		08:37	.67	.25	373	2681	CODE 02
12/02/77		08:38	.75	.27	374	2682	CODE 24
12/02/77		08:39	.73	.20	375	2683	CODE 02
12/02/77		08:45	5.80	.25	376	2684	CODE 24
12/02/77		08:46	.75	.28	377	2685	CODE 12
12/02/77		08:49	2.72	.58	378	2686	CODE 24
12/02/77		08:50	.42	.25	379	2687	CODE 24
12/02/77		08:51	.75	.40	380	2688	CODE 12
12/02/77		08:52	.60	.43	381	2689	CODE 24
12/02/77		09:00	7.57	3.25	382	2690	CODE 25
12/02/77		09:08	4.75	.33	383	2691	CODE 24
12/02/77		09:10	1.67	.40	384	2692	CODE 18
12/02/77		09:13	2.60	.25	385	2693	CODE 24
12/02/77		09:22	8.75	.28	386	2694	CODE 24
12/02/77		09:23	.72	.25	387	2695	CODE 24

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		09:24	.75	.25	388	2696	CODE 02
12/02/77		09:25	.75	.58	389	2697	CODE 24
12/02/77		09:26	.42	.25	390	2698	CODE 02
12/02/77		09:27	.75	.28	391	2699	CODE 24
12/02/77		09:29	1.72	.27	392	2700	CODE 24
12/02/77		09:30	.73	.28	393	2701	CODE 24
12/02/77		09:32	1.72	.33	394	2702	CODE 24
12/02/77		09:33	.67	.28	395	2703	CODE 24
12/02/77		09:37	3.72	.83	396	2704	CODE 25
12/02/77		09:40	2.17	.40	397	2705	CODE 18
12/02/77		09:42	1.60	.25	398	2706	CODE 24
12/02/77		09:46	3.75	.25	399	2707	CODE 24
12/02/77		09:47	.75	1.63	400	2708	CODE 11
12/02/77		09:49	.37	.40	401	2709	CODE 18
12/02/77		09:56	6.60	1.25	402	2710	CODE 02
12/02/77		10:18	5.75	.28	403	2711	CODE 24
12/02/77		10:23	4.72	.25	404	2712	CODE 24
12/02/77		10:25	1.75	.58	405	2713	CODE 12
12/02/77		10:30	4.42	.28	406	2714	CODE 24
12/02/77		10:34	3.72	.83	407	2715	CODE 12
12/02/77		10:40	5.17	.58	408	2716	CODE 25
12/02/77		10:41	.42	.53	409	2717	CODE 02
12/02/77		10:42	.47	.28	410	2718	CODE 24
12/02/77		10:43	.72	.40	411	2719	CODE 02
12/02/77		10:46	2.60	.25	412	2720	CODE 24
12/02/77		10:47	.75	.28	413	2721	CODE 24
12/02/77		10:48	.72	.25	414	2722	CODE 24
12/02/77		10:56	7.75	.28	415	2723	CODE 24
12/02/77		11:04	7.72	.33	416	2724	CODE 24
12/02/77		11:08	3.67	.58	417	2725	CODE 18
12/02/77		11:14	5.42	.28	418	2726	CODE 24
12/02/77		11:15	.72	.33	419	2727	CODE 24
12/02/77		11:18	2.67	.28	420	2728	CODE 24
12/02/77		11:20	1.72	.25	421	2729	CODE 24
12/02/77		11:21	.75	.28	422	2730	CODE 12
12/02/77		11:23	1.72	.83	423	2731	CODE 12
12/02/77		11:26	2.17	.63	424	2732	CODE 24
12/02/77		11:28	1.37	.33	425	2733	CODE 24
12/02/77		11:29	.67	.28	426	2734	CODE 24
12/02/77		11:30	.72	2.33	427	2735	CODE 11

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		11:40	7.67	.83	428	2736	CODE 12
12/02/77		11:46	5.17	.33	429	2737	CODE 24
12/02/77		11:53	6.67	.33	430	2738	CODE 24
12/02/77		12:34	10.67	.25	431	2739	CODE 24
12/02/77		12:39	4.75	.25	432	2740	CODE 24
12/02/77		12:41	1.75	.20	433	2741	CODE 24
12/02/77		12:42	.80	.25	434	2742	CODE 02
12/02/77		12:47	4.75	.25	435	2743	CODE 24
12/02/77		12:48	.75	.58	436	2744	CODE 02
12/02/77		12:49	.42	.75	437	2745	CODE 18
12/02/77		12:54	4.25	.42	438	2746	CODE 12
12/02/77		13:00	5.58	.33	439	2747	CODE 24
12/02/77		13:09	8.67	.68	440	2748	CODE 12
12/02/77		13:10	.32	1.58	441	2749	CODE 12
12/02/77		13:12	.42	.25	442	2750	CODE 24
12/02/77		13:14	1.75	.28	443	2751	CODE 24
12/02/77		13:16	1.72	.25	444	2752	CODE 24
12/02/77		13:18	1.75	.40	445	2753	CODE 12
12/02/77		13:22	3.60	.58	446	2754	CODE 18
12/02/77		13:30	7.42	.25	447	2755	CODE 24
12/02/77		13:34	3.75	1.33	448	2756	TIGHTEN CONV BELT
12/02/77		13:38	2.67	.28	449	2757	CODE 24
12/02/77		13:39	.72	.33	450	2758	CODE 12
12/02/77		13:44	4.67	.28	451	2759	CODE 18
12/02/77		13:50	5.72	0.00	452	2760	CODE 24
12/02/77		14:20	15.00	.63	453	2761	CODE 12
12/02/77		14:22	1.37	.25	454	2762	CODE 24
12/02/77		14:23	.75	2.05	455	2763	CODE 12
12/02/77		14:26	.95	.25	456	2764	CODE 24
12/02/77		14:30	3.75	.40	457	2765	CODE 24
12/02/77		14:32	1.60	.25	458	2766	CODE 24
12/02/77		14:34	1.75	.33	459	2767	CODE 24
12/02/77		14:43	8.67	.83	460	2768	CODE 27
12/02/77		14:47	3.17	1.00	461	2769	CODE 12
12/02/77		14:48	0.00	.33	462	2770	CODE 12
12/02/77			END OF SHIFT AT 14:50				

MODULE 7 = FUZE ASSEMBLY STATION 8 STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77	08:15						
11/16/77		08:27	2.00	9.23	1	2771	CODE 11
11/16/77		08:39	2.77	.40	2	2772	CODE 12
11/16/77		08:41	1.60	.40	3	2773	CODE 02
11/16/77		08:43	1.60	.63	4	2774	CODE 25
11/16/77		08:46	2.37	.42	5	2775	CODE 02
11/16/77		08:50	3.58	.50	6	2776	CODE 12
11/16/77		08:52	1.50	.50	7	2777	CODE 12
11/16/77		08:58	5.50	.70	8	2778	CODE 12
11/16/77		09:09	10.30	.63	9	2779	CODE 12
11/16/77		09:25	15.37	.22	10	2780	CODE 02
11/16/77		09:49	23.40	.20	11	2781	CODE 12
11/16/77		10:21	14.80	.40	12	2782	CODE 18
11/16/77		10:23	1.60	.42	13	2783	CODE 12
11/16/77		10:50	5.38	.35	14	2784	CODE 02
11/16/77		10:56	5.65	.50	15	2785	CODE 11
11/16/77		11:01	4.50	.87	16	2786	CODE 14
11/16/77		11:04	2.13	.27	17	2787	CODE 06
11/16/77		11:07	2.73	.92	18	2788	CODE 03
11/16/77		11:13	5.08	1.27	19	2789	CODE 12
11/16/77		11:15	.73	.80	20	2790	CODE 12
11/16/77		11:22	6.20	.22	21	2791	CODE 12
11/16/77		11:28	5.78	.80	22	2792	CODE 02
11/16/77		11:34	5.20	1.00	23	2793	CODE 02
11/16/77		11:37	2.00	.37	24	2794	CODE 12
11/16/77		11:43	5.63	.82	25	2795	CODE 02
11/16/77		11:45	1.18	1.93	26	2796	CODE 02
11/16/77		11:47	.07	1.20	27	2797	MAIN DRIVE SHAFT JAM
11/16/77		11:49	.80	.53	28	2798	CODE 12
11/16/77		11:51	1.47	.55	29	2799	CODE 12
11/16/77		12:30	8.45	1.02	30	2800	CODE 12
11/16/77		12:37	1.70	.47	31	2801	CODE 12
11/16/77		12:38	.53	5.25	32	2802	CODE 02
11/16/77		12:46	2.75	.68	33	2803	CODE 12
11/16/77		12:47	.32	4.52	34	2804	CODE 12
11/16/77		12:55	3.48	.25	35	2805	CODE 24
11/16/77		12:57	1.75	3.80	36	2806	CODE 21
11/16/77		13:04	3.20	4.08	37	2807	CODE 21
11/16/77		13:19	10.92	10.20	38	2808	CODE 21
11/16/77		13:34	4.80	.75	39	2809	CODE 18

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		13:35	.25	2.43	40	2810	CODE 21
11/16/77		13:40	2.57	11.83	41	2811	CODE 11
11/16/77		13:53	1.17	1.22	42	2812	CODE 21
11/16/77		14:16	21.78	1.00	43	2813	CODE 21
11/16/77		14:52	11.57	.25	44	2814	CODE 24
11/16/77		14:53	.75	.42	45	2815	CODE 18
11/16/77		14:58	2.08	2.53	46	2816	CODE 11
11/16/77		15:03	2.47	.25	47	2817	CODE 18
11/16/77		15:04	.75	.58	48	2818	CODE 12
11/16/77		15:08	3.42	1.98	49	2819	CODE 12
11/16/77		15:14	4.02	.42	50	2820	CODE 18
11/16/77		15:16	1.58	.53	51	2821	CODE 12
11/16/77		15:21	4.47	.22	52	2822	CODE 18
11/16/77		15:27	5.78	.22	53	2823	CODE 14
11/16/77		15:28	.78	.42	54	2824	CODE 12
11/16/77		15:39	9.58	.52	55	2825	CODE 02
11/16/77		15:45	5.12	.25	56	2826	CODE 24
11/16/77		END OF SHIFT AT 15:49					
11/17/77	08:00						
11/17/77		08:02	5.75	8.88	57	2827	CODE 20
11/17/77		08:16	5.12	4.58	58	2828	CODE 11
11/17/77		08:22	1.42	.93	59	2829	CODE 01
11/17/77		08:24	1.07	1.25	60	2830	CODE 11
11/17/77		08:28	2.75	.32	61	2831	CODE 14
11/17/77		08:29	.68	1.52	62	2832	CODE 11
11/17/77		08:32	1.48	.68	63	2833	CODE 18
11/17/77		08:33	.32	.22	64	2834	CODE 24
11/17/77		08:36	2.78	.32	65	2835	CODE 18
11/17/77		08:40	3.68	2.32	66	2836	CODE 11
11/17/77		08:43	.68	.40	67	2837	CODE 11
11/17/77		08:47	3.60	5.67	68	2838	CODE 11
11/17/77		08:55	2.33	.93	69	2839	CODE 12
11/17/77		08:57	1.07	.25	70	2840	CODE 24
11/17/77		09:00	2.75	.22	71	2841	CODE 24
11/17/77		09:03	2.78	.20	72	2842	CODE 24
11/17/77		09:04	.80	.20	73	2843	CODE 24
11/17/77		09:06	1.80	.28	74	2844	CODE 24
11/17/77		09:13	.72	3.25	75	2845	CODE 29
11/17/77		09:17	.75	.77	76	2846	CODE 12

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		09:47	29.23	.45	77	2847	CODE 18
11/17/77		09:48	.55	1.33	78	2848	CODE 11
11/17/77		09:50	.67	.28	79	2849	CODE 18
11/17/77		09:52	1.72	.35	80	2850	CODE 03
11/17/77		09:53	.65	.48	81	2851	CODE 03
11/17/77		10:16	7.52	.82	82	2852	CODE 03
11/17/77		10:22	5.18	.68	83	2853	CODE 03
11/17/77		10:31	8.32	2.05	84	2854	CODE 03
11/17/77		10:34	.95	1.42	85	2855	CODE 11
11/17/77		10:36	.58	1.88	86	2856	CODE 29
11/17/77		10:38	.12	9.57	87	2857	CODE 29
11/17/77		10:48	.43	.50	88	2858	CODE 06
11/17/77		10:56	7.50	2.88	89	2859	CODE 12
11/17/77		11:00	1.12	.32	90	2860	CODE 03
11/17/77		11:05	3.55	.82	91	2861	CODE 12
11/17/77		11:07	1.18	.32	92	2862	CODE 12
11/17/77		11:11	3.68	.33	93	2863	CODE 02
11/17/77		11:15	3.67	.25	94	2864	CODE 03
11/17/77		11:16	.75	1.02	95	2865	CODE 12
11/17/77		11:18	.98	1.40	96	2866	CODE 12
11/17/77		11:20	.60	1.27	97	2867	CODE 02
11/17/77		11:22	.73	3.97	98	2868	CODE 02
11/17/77		11:29	2.32	1.37	99	2869	CODE 12
11/17/77		11:34	3.63	.43	100	2870	CODE 18
11/17/77		11:37	2.57	.35	101	2871	CODE 18
11/17/77		11:38	.65	1.12	102	2872	CODE 11
11/17/77		11:42	2.88	.22	103	2873	CODE 03
11/17/77		11:43	.78	1.25	104	2874	CODE 11
11/17/77		11:45	.75	.58	105	2875	CODE 11
11/17/77		11:53	7.42	.22	106	2876	CODE 02
11/17/77		12:30	6.78	.33	107	2877	CODE 12
11/17/77		12:32	1.67	.28	108	2878	CODE 12
11/17/77		12:33	.72	1.15	109	2879	CODE 12
11/17/77		12:36	1.85	1.53	110	2880	CODE 12
11/17/77		12:58	19.45	1.75	111	2881	CODE 16
11/17/77		13:04	4.25	.22	112	2882	CODE 24
11/17/77		13:08	3.78	.28	113	2883	CODE 12
11/17/77		13:18	9.72	.33	114	2884	CODE 03
11/17/77		13:23	4.67	.25	115	2885	CODE 03
11/17/77		13:30	6.75	.43	116	2886	CODE 02

KAA

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		13:40	9.57	.77	117	2887	CODE 11
11/17/77		13:43	2.23	.75	118	2888	CODE 27
11/17/77		13:44	.25	.58	119	2889	CODE 18
11/17/77		13:47	2.42	.85	120	2890	CODE 06
11/17/77		14:18	15.15	.33	121	2891	CODE 24
11/17/77		14:31	12.67	.97	122	2892	CODE 12
11/17/77		14:40	8.03	1.25	123	2893	CODE 12
11/17/77		14:49	7.75	.42	124	2894	CODE 15
11/17/77		14:53	3.58	1.22	125	2895	CODE 12
11/17/77		14:56	1.78	.38	126	2896	CODE 12
11/17/77		15:03	6.62	1.40	127	2897	CODE 12
11/17/77		15:14	9.20	.33	128	2898	CODE 02
11/17/77		15:21	6.67	.25	129	2899	CODE 03
11/17/77		15:22	.75	.28	130	2900	CODE 03
11/17/77		15:32	9.72	3.50	131	2901	CODE 25
11/17/77			END OF SHIFT AT 15:52				
11/18/77	08:00						
11/18/77		08:05	21.17	.58	132	2902	CODE 12
11/18/77		08:13	7.42	.53	133	2903	CODE 03
11/18/77		08:21	6.58	.78	134	2904	CODE 11
11/18/77		08:23	1.22	5.62	135	2905	CODE 29
11/18/77		08:30	1.38	1.28	136	2906	CODE 12
11/18/77		08:32	.72	3.42	137	2907	CODE 29
11/18/77		08:41	5.58	.77	138	2908	CODE 12
11/18/77		08:43	1.23	.43	139	2909	CODE 15
11/18/77		08:44	.57	.32	140	2910	CODE 03
11/18/77		09:06	17.02	.58	141	2911	CODE 12
11/18/77		09:22	15.42	.40	142	2912	CODE 12
11/18/77		09:49	24.17	.67	143	2913	CODE 27
11/18/77		09:50	.33	3.57	144	2914	CODE 12
11/18/77		10:22	13.43	3.55	145	2915	SET TIMING ON MACHINE
11/18/77		10:26	.45	5.68	146	2916	CODE 11
11/18/77		10:37	5.32	.37	147	2917	CODE 02
11/18/77		10:38	.63	.73	148	2918	CODE 03
11/18/77		10:44	5.27	.52	149	2919	CODE 21
11/18/77		10:59	14.48	.43	150	2920	CODE 03
11/18/77		11:15	15.57	.52	151	2921	CODE 03
11/18/77		11:31	15.48	.52	152	2922	CODE 03
11/18/77		11:36	4.48	.53	153	2923	CODE 02

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		11:38	1.47	.52	154	2924	CODE 03
11/18/77		11:45	6.48	.52	155	2925	CODE 03
11/18/77		11:46	.48	.73	156	2926	CODE 02
11/18/77		11:56	9.27	.52	157	2927	CODE 03
11/18/77		12:47	18.08	.75	158	2928	CODE 02
11/18/77		12:49	1.25	1.68	159	2929	CODE 02
11/18/77		12:54	3.32	1.27	160	2930	CODE 12
11/18/77		13:04	8.73	.37	161	2931	CODE 03
11/18/77		13:14	9.63	2.20	162	2932	CODE 12
11/18/77		13:17	.80	.63	163	2933	CODE 12
11/18/77		13:24	6.37	.83	164	2934	CODE 02
11/18/77		13:37	12.17	.33	165	2935	CODE 15
11/18/77			END OF SHIFT AT 14:00				

MODULE 8 = FUZE ASSEMBLY STATION 9

STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:00						
11/15/77		08:02	2.00	1.13	1	2936	COOF 12
11/15/77		08:07	3.87	.43	2	2937	CODF 12
11/15/77		08:09	1.57	.50	3	2938	COOF 24
11/15/77		08:11	1.50	1.28	4	2939	COOF 02
11/15/77		08:13	.72	4.20	5	2940	CODE 12
11/15/77		08:19	1.80	3.28	6	2941	CODF 12
11/15/77		08:26	3.72	1.33	7	2942	COOF 12
11/15/77		08:29	1.67	.37	8	2943	COOF 12
11/15/77		08:31	1.63	1.10	9	2944	COOE 18
11/15/77		08:44	11.90	3.62	10	2945	COOE 11
11/15/77		08:54	6.38	1.62	11	2946	COOF 11
11/15/77		09:07	11.38	1.50	12	2947	COOE 18
11/15/77		09:12	3.50	8.75	13	2948	AOJUST MACHINE TIMING
11/15/77		09:28	7.25	2.45	14	2949	COOF 11
11/15/77		09:31	.55	3.15	15	2950	COOE 11
11/15/77		09:36	1.85	.27	16	2951	CODF 02
11/15/77		09:38	1.73	.37	17	2952	COOF 24
11/15/77		09:50	11.63	1.10	18	2953	COOF 18
11/15/77		09:58	6.90	.32	19	2954	COOF 02
11/15/77		10:15	1.68	.25	20	2955	COOF 02
11/15/77		11:08	52.50	.65	21	2956	COOF 18
11/15/77		11:13	4.35	.40	22	2957	COOE 12
11/15/77		11:21	7.60	.22	23	2958	COOE 12
11/15/77		11:26	4.78	.37	24	2959	COOF 18
11/15/77		11:31	4.63	.33	25	2960	COOF 12
11/15/77		11:33	1.67	.20	26	2961	COOE 02
11/15/77		11:37	3.80	.27	27	2962	COOF 12
11/15/77		11:39	1.73	.23	28	2963	CODF 12
11/15/77		11:47	7.77	.33	29	2964	COOF 12
11/15/77		11:52	4.67	.33	30	2965	COOF 12
11/15/77		12:35	12.67	.72	31	2966	COOF 12
11/15/77		12:39	3.28	.62	32	2967	COOF 12
11/15/77		12:46	6.38	.83	33	2968	COOF 12
11/15/77		12:48	1.17	.22	34	2969	CODF 02
11/15/77		12:49	.78	1.67	35	2970	CODF 02
11/15/77		12:54	3.33	.37	36	2971	COOF 12
11/15/77		13:05	10.63	.75	37	2972	COOF 12
11/15/77		13:07	1.25	1.25	38	2973	CODF 12
11/15/77		13:09	.75	1.00	39	2974	COOE 02

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77		13:10	0.00	.52	40	2975	CODE 02
11/15/77		13:12	1.48	2.57	41	2976	CODE 25
11/15/77		13:17	2.43	.20	42	2977	CODE 12
11/15/77		13:19	1.80	.45	43	2978	CODE 18
11/15/77		13:26	6.55	1.28	44	2979	CODE 12
11/15/77		13:33	5.72	.28	45	2980	CODE 02
11/15/77		13:37	3.72	.20	46	2981	CODE 02
11/15/77		13:38	.80	.40	47	2982	CODE 12
11/15/77		13:44	5.60	.40	48	2983	CODE 12
11/15/77		13:48	3.60	.97	49	2984	CODE 18
11/15/77		13:57	8.03	.43	50	2985	CODE 02
11/15/77		14:18	5.57	.23	51	2986	CODE 12
11/15/77		14:21	2.77	.20	52	2987	CODE 02
11/15/77		14:28	6.80	.23	53	2988	CODE 02
11/15/77		14:30	1.77	.83	54	2989	CODE 12
11/15/77		14:32	1.17	.75	55	2990	CODE 25
11/15/77		14:38	5.25	.70	56	2991	CODE 12
11/15/77		14:42	3.30	.50	57	2992	CODE 12
11/15/77		14:43	.50	.47	58	2993	CODE 25
11/15/77		14:46	2.53	.42	59	2994	CODE 24
11/15/77		14:52	5.58	.52	60	2995	CODE 18
11/15/77		14:54	1.48	.97	61	2996	CODE 18
11/15/77		15:07	12.03	.30	62	2997	CODE 27
11/15/77		15:10	2.70	.33	63	2998	CODE 02
11/15/77		15:11	.67	.28	64	2999	CODE 12
11/15/77		15:16	4.72	.77	65	3000	CODE 12
11/15/77		15:17	.23	.43	66	3001	CODE 02
11/15/77		15:21	3.57	.38	67	3002	CODE 02
11/15/77		15:25	3.62	.37	68	3003	CODE 27
11/15/77		15:29	3.63	.33	69	3004	CODE 27
11/15/77		15:31	1.67	.32	70	3005	CODE 14
11/15/77		15:36	4.68	.20	71	3006	CODE 27
11/15/77		15:41	4.80	.33	72	3007	CODE 27
11/15/77			END OF SHIFT AT 15:45				
11/16/77	08:40						
11/16/77		08:42	5.67	.43	73	3008	CODE 18
11/16/77		08:50	7.57	.33	74	3009	CODE 16
11/16/77		08:50	.33	.20	75	3010	CODE 12
11/16/77		08:52	1.80	.43	76	3011	CODE 12

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		08:54	1.57	.25	77	3012	CODE 12
11/16/77		08:56	1.75	.33	78	3013	CODE 12
11/16/77		09:13	1.87	4.05	79	3014	CODE 21
11/16/77		09:18	.95	2.20	80	3015	CODE 21
11/16/77		09:22	1.80	3.50	81	3016	CODE 18
11/16/77		09:26	.50	.20	82	3017	CODE 12
11/16/77		09:29	2.80	.25	83	3018	CODE 12
11/16/77		09:31	1.75	.63	84	3019	CODE 12
11/16/77		09:36	4.37	.25	85	3020	CODE 12
11/16/77		09:41	4.75	.40	86	3021	CODE 18
11/16/77		09:43	1.60	.25	87	3022	CODE 12
11/16/77		09:47	3.75	.25	88	3023	CODE 12
11/16/77		09:52	4.75	.28	89	3024	CODE 12
11/16/77		10:20	12.72	.20	90	3025	CODE 12
11/16/77		10:23	2.80	.25	91	3026	CODE 12
11/16/77		10:26	2.75	.20	92	3027	CODE 13
11/16/77		10:27	.80	1.80	93	3028	CODE 11
11/16/77		10:32	3.20	.33	94	3029	CODE 17
11/16/77		10:33	.67	.50	95	3030	CODE 24
11/16/77		10:37	3.50	.28	96	3031	CODE 12
11/16/77		10:38	.72	.50	97	3032	CODE 12
11/16/77		10:39	.50	.63	98	3033	CODE 18
11/16/77		11:08	.97	5.68	99	3034	CODE 12
11/16/77		11:19	5.32	.28	100	3035	CODE 12
11/16/77		11:21	1.72	.33	101	3036	CODE 17
11/16/77		11:22	.67	.28	102	3037	CODE 12
11/16/77		11:26	3.72	.33	103	3038	CODE 12
11/16/77		11:27	.67	.40	104	3039	CODE 12
11/16/77		11:33	5.60	.28	105	3040	CODE 12
11/16/77		11:34	.72	.88	106	3041	CODE 24
11/16/77		11:36	1.12	.33	107	3042	CODE 12
11/16/77		11:38	1.67	.25	108	3043	CODE 12
11/16/77		11:40	1.75	.28	109	3044	CODE 27
11/16/77		11:42	1.72	.25	110	3045	CODE 12
11/16/77		11:43	.75	.58	111	3046	CODE 12
11/16/77		11:44	.42	.40	112	3047	CODE 03
11/16/77		11:47	1.55	.20	113	3048	CODE 12
11/16/77		11:48	.80	.33	114	3049	CODE 12
11/16/77		11:49	.67	.40	115	3050	CODE 12
11/16/77		11:50	.60	.25	116	3051	CODE 24

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		11:52	1.75	.20	117	3052	CODE 12
11/16/77		11:53	.80	.33	118	3053	CODE 12
11/16/77		11:55	1.67	.28	119	3054	CODF 24
11/16/77		11:56	.72	.28	120	3055	CODE 12
11/16/77		12:33	6.72	.28	121	3056	CODF 24
11/16/77		12:34	.72	.40	122	3057	CODE 12
11/16/77		12:36	1.60	.50	123	3058	CODE 12
11/16/77		12:38	1.50	.43	124	3059	CODE 12
11/16/77		12:40	1.57	2.00	125	3060	CODE 12
11/16/77		12:43	1.00	1.80	126	3061	CODE 12
11/16/77		12:46	1.20	.83	127	3062	CODF 24
11/16/77		12:51	4.17	.68	128	3063	CODE 12
11/16/77		12:52	.32	2.50	129	3064	CODE 12
11/16/77		13:09	1.10	.40	130	3065	CODE 02
11/16/77		13:10	.60	.33	131	3066	CODE 15
11/16/77		13:11	.67	.28	132	3067	CODE 12
11/16/77		13:12	.72	1.58	133	3068	CODE 12
11/16/77		13:15	1.42	1.80	134	3069	CODE 12
11/16/77		13:17	.20	.75	135	3070	CODE 12
11/16/77		13:21	3.25	3.75	136	3071	CODF 21
11/16/77		13:32	7.25	.43	137	3072	CODE 12
11/16/77		13:35	2.57	.53	138	3073	CODE 12
11/16/77		13:38	2.47	.28	139	3074	CODE 24
11/16/77		13:40	1.72	.20	140	3075	CODE 12
11/16/77		13:45	4.80	.28	141	3076	CODE 12
11/16/77		14:25	24.72	1.20	142	3077	CODE 12
11/16/77		14:27	.80	.20	143	3078	CODE 12
11/16/77		14:28	.80	1.10	144	3079	CODE 12
11/16/77		14:36	6.90	.43	145	3080	CODF 27
11/16/77		14:46	9.57	.93	146	3081	CODE 28
11/16/77		14:55	8.07	.40	147	3082	CODF 24
11/16/77		14:57	1.60	.28	148	3083	CODF 12
11/16/77		14:58	.72	.25	149	3084	CODE 24
11/16/77		15:00	1.75	.33	150	3085	CODF 12
11/16/77		15:07	6.67	.28	151	3086	CODF 24
11/16/77		15:14	6.72	.28	152	3087	CODE 12
11/16/77		15:28	13.72	.25	153	3088	CODF 27
11/16/77		15:37	8.75	.43	154	3089	CODF 27
11/16/77		15:41	3.57	.33	155	3090	CODF 24
11/16/77		15:44	2.67	.40	156	3091	CODF 18

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77			END OF SHIFT AT 15:53				
11/17/77	08:02						
11/17/77		08:06	10.72	.75	157	3092	COOF 05
11/17/77		08:08	1.25	.25	158	3093	CODF 12
11/17/77		08:09	.75	4.40	159	3094	COOF 29
11/17/77		08:29	12.35	.28	160	3095	COOF 24
11/17/77		08:30	.72	.88	161	3096	COOE 12
11/17/77		08:37	6.12	.25	162	3097	COOF 24
11/17/77		08:38	.75	.75	163	3098	COOF 11
11/17/77		08:45	6.25	.25	164	3099	COOE 24
11/17/77		08:46	.75	.40	165	3100	COOF 12
11/17/77		08:54	7.60	.88	166	3101	COOE 21
11/17/77		08:57	2.12	.28	167	3102	CODF 24
11/17/77		09:03	5.72	1.33	168	3103	CODF 18
11/17/77		09:08	3.67	.25	169	3104	COOF 18
11/17/77		09:12	3.75	7.83	170	3105	CODE 11
11/17/77		09:20	.17	1.68	171	3106	COOF 11
11/17/77		09:24	2.32	.20	172	3107	CODF 12
11/17/77		09:26	1.80	.43	173	3108	CODF 11
11/17/77		09:28	1.57	.20	174	3109	CODF 12
11/17/77		09:36	7.40	.53	175	3110	COOE 24
11/17/77		09:40	3.47	.20	176	3111	COOF 12
11/17/77		09:44	3.80	.20	177	3112	COOF 12
11/17/77		09:53	8.80	.40	178	3113	COOF 27
11/17/77		09:56	2.60	.25	179	3114	CODF 12
11/17/77		09:57	.75	.63	180	3115	CODF 03
11/17/77		10:19	3.83	.28	181	3116	COOF 18
11/17/77		10:25	5.72	.25	182	3117	CODF 12
11/17/77		10:26	.75	.50	183	3118	COOF 25
11/17/77		10:34	3.70	1.58	184	3119	COOF 24
11/17/77		10:38	2.42	.28	185	3120	COOF 27
11/17/77		10:39	.72	4.53	186	3121	CODF 28
11/17/77		10:44	.47	6.63	187	3122	COOF 11
11/17/77		10:52	1.37	.33	188	3123	CODF 12
11/17/77		11:02	9.67	.63	189	3124	CODF 28
11/17/77		11:05	2.37	.20	190	3125	COOF 24
11/17/77		11:07	1.80	.50	191	3126	CODF 12
11/17/77		11:13	5.50	1.88	192	3127	CODF 12
11/17/77		11:15	.12	.40	193	3128	CODF 12

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		11:24	8.60	.33	194	3129	CODE 12
11/17/77		11:26	1.67	.28	195	3130	CODE 05
11/17/77		11:38	11.72	.58	196	3131	CODE 05
11/17/77		11:42	3.42	.75	197	3132	CODE 05
11/17/77		11:45	2.25	.50	198	3133	CODE 05
11/17/77		11:46	.50	.43	199	3134	CODE 29
11/17/77		11:54	5.57	.33	200	3135	CODE 24
11/17/77		12:31	6.67	.43	201	3136	CODE 27
11/17/77		12:37	5.57	.25	202	3137	CODE 24
11/17/77		12:38	.75	.40	203	3138	CODE 12
11/17/77		12:46	7.60	.40	204	3139	CODE 11
11/17/77		12:48	1.60	.28	205	3140	CODE 24
11/17/77		12:51	2.72	.25	206	3141	CODE 27
11/17/77			END OF SHIFT AT 17:22				
11/18/77	08:00						
11/18/77		08:12	4.75	.50	207	3142	CODE 05
11/18/77		08:22	9.50	.43	208	3143	CODE 25
11/18/77		08:27	4.57	.28	209	3144	CODE 12
11/18/77		08:29	1.72	.33	210	3145	CODE 12
11/18/77		08:38	8.67	.25	211	3146	CODE 12
11/18/77		08:39	.75	.40	212	3147	CODE 02
11/18/77		08:44	4.60	.40	213	3148	CODE 02
11/18/77		09:17	11.55	.58	214	3149	CODE 05
11/18/77		09:19	1.42	.20	215	3150	CODE 12
11/18/77		09:22	2.80	.93	216	3151	CODE 24
11/18/77		09:29	5.67	.25	217	3152	CODE 12
11/18/77		09:32	2.75	.33	218	3153	CODE 12
11/18/77		09:33	.67	.50	219	3154	CODE 29
11/18/77		09:34	.50	3.80	220	3155	CODE 29
11/18/77		09:42	4.20	.20	221	3156	CODE 24
11/18/77		10:26	28.80	.25	222	3157	CODE 24
11/18/77		10:27	.75	2.20	223	3158	CODE 12
11/18/77		11:13	3.68	.20	224	3159	CODE 24
11/18/77		11:14	.80	.28	225	3160	CODE 12
11/18/77		11:19	4.72	.20	226	3161	CODE 12
11/18/77		11:23	3.80	.25	227	3162	CODE 12
11/18/77		11:32	8.75	.20	228	3163	CODE 12
11/18/77		11:34	1.80	.25	229	3164	CODE 02
11/18/77		11:47	12.75	.28	230	3165	CODE 02

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		11:54	6.72	.33	231	3166	CODE 24
11/18/77		12:42	17.67	.20	232	3167	CODE 12
11/18/77		12:47	4.80	.25	233	3168	CODE 12
11/18/77		12:55	7.75	.28	234	3169	CODE 27
11/18/77		13:00	4.72	.25	235	3170	CODE 12
11/18/77		13:09	8.75	.33	236	3171	CODE 27
11/18/77		13:10	.67	.25	237	3172	CODE 18
11/18/77		13:18	7.75	.25	238	3173	CODE 24
11/18/77		13:32	13.75	1.40	239	3174	CODE 18
11/18/77		13:36	2.60	.33	240	3175	CODE 27
11/18/77		13:44	7.67	.20	241	3176	CODE 12
11/18/77			END OF SHIFT AT 13:52				

MODULE 1 = PROJECTILE PLACING STA STATION 401 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	09:20						
11/15/77		09:52	32.00	.33	1	1	PROJ HUNG ON PLACER CONV
11/15/77		10:22	12.67	.42	2	2	PROJ HUNG ON PLACER CONV
11/15/77		10:40	17.58	.62	3	3	PROJEC HUNG ON PLACER CONV
11/15/77		11:09	28.38	1.55	4	4	PROJ HUNG ON PLACER CONV
11/15/77		11:24	13.45	.33	5	5	PROJ HUNG ON PLACER CONV
11/15/77		11:33	8.67	1.42	6	6	PROJ HUNG ON PLACER CONV
11/15/77		15:17	175.58	.25	7	7	PROJ HUNG ON PLACER
11/15/77			END OF SHIFT AT 15:53				
11/16/77	07:58						
11/16/77		07:59	36.75	7.25	8	8	PLACER LOWERED PROJ W/O PALLET
11/16/77		11:09	138.75	.58	9	9	PROJ HUNG ON PLACER CONV
11/16/77		12:37	55.42	.25	10	10	PROJ HUNG ON PLACER CONV
11/16/77		13:12	34.75	.45	11	11	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:25	12.55	.42	12	12	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:43	17.58	.58	13	13	PROJ HUNG ON PLACER CONV
11/16/77		13:47	3.42	.42	14	14	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:53	5.58	1.25	15	15	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		14:19	7.75	1.58	16	16	PROJ HUNG ON PLACER CONV
11/16/77		14:37	16.42	1.17	17	17	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:10	31.83	.33	18	18	PROJ HUNG ON PLACER CONV
11/16/77		15:32	21.67	1.75	19	19	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:43	9.25	.58	20	20	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:48	4.42	.78	21	21	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77			END OF SHIFT AT 15:58				
11/17/77	08:00						
11/17/77		08:38	47.22	1.83	22	22	PROJ HUNG ON PLACER SWITCH
11/17/77		08:53	13.17	2.17	23	23	PROJ HUNG ON PLACER SWITCH
11/17/77		09:11	15.83	.67	24	24	PROJ HUNG ON PLACER SWITCH
11/17/77		09:25	13.33	.55	25	25	PROJ HUNG ON PLACER SWITCH
11/17/77		09:41	15.45	.92	26	26	PROJ TUPNED SIDEWAYS ON CONV
11/17/77		10:31	31.08	.25	27	27	PROJ HUNG ON PLACER CONV
11/17/77		10:42	10.75	.30	28	28	PROJ HUNG ON PLACER CONV
11/17/77		10:53	10.70	.58	29	29	PROJ HUNG ON PLACER CONV
11/17/77		10:56	2.42	.67	30	30	PROJ HUNG ON PLACER CONV
11/17/77		11:05	8.33	.30	31	31	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		11:11	5.70	.58	32	32	PROJ HUNG ON PLACER CONV
11/17/77		11:17	5.42	.45	33	33	PROJ HUNG ON PLACER CONV

MODULE 1 = PROJECTILE PLACING STA (CONTD) STATION 401 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		11:36	18.55	1.33	34	34	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		11:50	12.67	.83	35	35	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		13:05	41.17	1.33	36	36	PROJ COCKED SIDEWAYS ON CONV
11/17/77		14:47	82.67	.80	37	37	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:38	50.20	.58	38	38	PROJ COCKED SIDEWAYS ON CONV
11/17/77		15:40	1.42	.42	39	39	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:47	6.58	2.67	40	40	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:54	4.33	.30	41	41	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77			END OF SHIFT AT 15:57				
11/18/77	08:00						
11/18/77		08:15	17.70	3.00	42	42	PROJ FAILED TO ROLL PROJ STACKED
11/18/77		09:04	46.00	.50	43	43	PROJ FAILED TO MAKE LIMIT SWITCH
11/18/77		12:45	169.50	2.17	44	44	PROJ DIDNT MAKE LIMIT SWITCH
11/18/77			END OF SHIFT AT 15:39				

MODULE 2 = FORWARD PLATE + ORIENT STA STATION 402 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:01						
11/15/77		08:12	11.00	.53	1	45	PALLET HUNG ENTERING
11/15/77		08:15	2.47	.50	2	46	PALLET HUNG LEAVING
11/15/77		14:18	296.50	1.09	3	47	PALLET HUNG ENTERING
11/15/77			END OF SHIFT AT 15:55				
11/16/77	07:58						
11/16/77			END OF SHIFT AT 15:58				
11/17/77	08:00						
11/17/77		09:50	592.92	.83	4	48	ADJUST PALLET PRESSURIZATION FIXTURE
11/17/77			END OF SHIFT AT 15:57				
11/18/77	08:00						
11/18/77		09:44	401.17	.42	5	49	PROJ NOT LINED PROPERLY
11/18/77		14:22	277.58	.39	6	50	RELEASE PRESSURE MANUALLY
11/18/77			END OF SHIFT AT 15:39				

MODULE 3 = M42 LAYER 1 INSERTION STATION 403 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05						
12/05/77		08:31	26.00	1.47	1	51	SHOT PIN STUCK UP
12/05/77		12:58	265.53	6.80	2	52	WOULD NOT EJECT PALLET
12/05/77			END OF SHIFT AT 16:00				
12/06/77	08:05						
12/06/77			END OF SHIFT AT 16:00				
12/07/77	08:05						
12/07/77			END OF SHIFT AT 16:00				
12/08/77	08:00						
12/08/77		08:05	1099.48	.70	3	53	PALLET WOULD NOT RELEASE
12/08/77			END OF SHIFT AT 16:00				
12/09/77	08:00						
12/09/77			END OF SHIFT AT 15:30				

MODULE 4 = M42 LAYER 2 INSERTION STATION 404 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05						
12/05/77		08:33	28.00	.75	1	54	PALLET STUCK
12/05/77		11:27	158.25	.65	2	55	PALLET DID NOT ALIGN PROPERLY
12/05/77			END OF SHIFT AT 16:00				
12/06/77	08:05						
12/06/77			END OF SHIFT AT 16:00				
12/07/77	08:05						
12/07/77			END OF SHIFT AT 16:00				
12/08/77	08:00						
12/08/77			END OF SHIFT AT 16:00				
12/09/77	08:00						
12/09/77			END OF SHIFT AT 15:30				

MODULE 5 = M42 LAYER 3 INSERTION STATION 405 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05						
12/05/77		09:07	62.00	2.55	1	56	RAN PICKED UP SHELL
12/05/77		14:37	267.45	1.97	2	57	RAM PICKED UP SHELL - RIBBON
12/05/77			END OF SHIFT AT 16:00				
12/06/77	08:05						
12/06/77			END OF SHIFT AT 16:00				
12/07/77	08:05						
12/07/77			END OF SHIFT AT 16:00				
12/08/77	08:00						
12/08/77			END OF SHIFT AT 16:00				
12/09/77	08:00						
12/09/77			END OF SHIFT AT 15:30				

MODULE 6 = M42 LAYER 4 INSERTION STATION 406 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77			END OF SHIFT AT 16:00				
12/13/77	08:01						
12/13/77			END OF SHIFT AT 16:00				
12/14/77	08:00						
12/14/77			END OF SHIFT AT 16:00				
12/15/77	08:00						
12/15/77			END OF SHIFT AT 16:00				
12/16/77	08:02						
12/16/77		12:58	1854.00	1.50	1	58	PALLET MISSALIGNED
12/16/77			END OF SHIFT AT 15:25				

MODULE 7 = M42 LAYER 5 INSERTION

STATION 407 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77			END OF SHIFT AT 16:00				
12/13/77	08:01						
12/13/77			END OF SHIFT AT 16:00				
12/14/77	08:00						
12/14/77			END OF SHIFT AT 16:00				
12/15/77	08:00						
12/15/77		13:34	1471.00	2.67	1	59	PROJ HUNG OP ON HEAD RETRACT
12/15/77			END OF SHIFT AT 16:00				
12/16/77	08:02						
12/16/77		11:14	305.33	3.62	2	60	PROJ JAMMED ON POWER
12/16/77			END OF SHIFT AT 15:25				

MODULE 8 = M42 LAYER 6 INSERTION

STATION 408 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77		09:37	88.00	1.27	1	61	PALLET OVER RAN STOP AT MACHINE
12/12/77			END OF SHIFT AT 16:00				
12/13/77	08:01						
12/13/77			END OF SHIFT AT 16:00				
12/14/77	08:00						
12/14/77			END OF SHIFT AT 16:00				
12/15/77	08:00						
12/15/77		08:26	1148.23	1.20	2	62	PALLET DID NOT STOP IN POSITION
12/15/77		14:56	328.80	.88	3	63	GREN CAME UP WITH SPIRAL PIN
12/15/77			END OF SHIFT AT 16:00				
12/16/77	08:02						
12/16/77			END OF SHIFT AT 15:25				

MODULE 9 = M42 LAYER 7 INSERTION STATION 409 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:17						
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77			END OF SHIFT AT 15:45				

MODULE 10 = M42 LAYER 8 INSERTION STATION 410 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:17						
12/19/77		08:21	4.00	2.15	1	64	ADJUST AIR VALVE ON GRENADE RAM
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77		13:14	645.85	.95	2	65	PALLET OUT OF ADJ PLUNGER PICKED UP
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77			END OF SHIFT AT 15:45				

MODULE 12 = M46 LAYER 10 INSERTION STATION 412 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:19						
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77			END OF SHIFT AT 15:45				

MODULE 11 = M46 LAYER 9 INSERTION STATION 411 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:19						
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77			END OF SHIFT AT 15:45				

MODULE 13 = M46 LAYER 11 INSERTION — STATION 413 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	10:15						
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77			END OF SHIFT AT 15:45				

MODULE 14 = ADAPTER LAYER INSERTION — STATION 414 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77		08:47	47.00	.50	1	66	PALLET JAMMED ENTERING STATION
11/28/77		12:51	197.50	.92	2	67	PALLET JAMMED ENTERING STATION
11/28/77			END OF SHIFT AT 16:00				
11/29/77	08:00						
11/29/77		08:16	189.08	.47	3	68	PALLET JAMMED ENTERING STATION
11/29/77		10:19	107.53	.83	4	69	PALLET HUNG LEAVING STATION
11/29/77		13:10	140.17	.50	5	70	PALLET HUNG LEAVING STATION
11/29/77			END OF SHIFT AT 15:52				
11/30/77	08:00						
11/30/77		14:27	473.50	.42	6	71	PALLET HUNG ENTERING STATION
11/30/77		14:31	3.58	.25	7	72	PALLET HUNG ENTERING STATION
11/30/77			END OF SHIFT AT 16:00				
12/01/77	08:00						
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77		13:07	770.75	.47	8	73	PALLET HUNG ENTERING STATION
12/02/77			END OF SHIFT AT 15:30				

MODULE 15 = SHIM INSERTION + GAGING STATION 415 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77			END OF SHIFT AT 16:00				
11/29/77	08:00						
11/29/77			END OF SHIFT AT 15:52				
11/30/77	08:00						
11/30/77			END OF SHIFT AT 16:00				
12/01/77	08:00						
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77			END OF SHIFT AT 15:30				

MODULE 16 = BASE PLUG TORQUE STA STATION 416 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77			END OF SHIFT AT 16:00				
11/29/77	08:00						
11/29/77			END OF SHIFT AT 15:52				
11/30/77	08:00						
11/30/77			END OF SHIFT AT 16:00				
12/01/77	08:00						
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77			END OF SHIFT AT 15:30				

MODULE 17 = PROJECTILE REMOVAL STA STATION 417 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:25						
12/19/77		08:26	1.00	8.18	1	74	TRANSFER UNLOADER WOULD NOT CLAMP
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05						
12/20/77			END OF SHIFT AT 16:00				
12/21/77	08:06						
12/21/77			END OF SHIFT AT 16:00				
12/22/77	08:00						
12/22/77		11:20	1189.88	1.13	2	75	PALLET HUNG IN OFF TRANSF STA
12/22/77			END OF SHIFT AT 15:45				

MODULE 18 = ZONE WEIGH STATION STATION 501 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77			END OF SHIFT AT 16:00				
12/28/77	08:00						
12/28/77			END OF SHIFT AT 16:00				
12/29/77	08:03						
12/29/77			END OF SHIFT AT 16:00				
12/30/77	08:05						
12/30/77			END OF SHIFT AT 16:00				

MODULE 19 = STENCIL M483A1 1 STATION 502 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77			END OF SHIFT AT 16:00				
12/28/77	08:00						
12/28/77			END OF SHIFT AT 16:00				
12/29/77	08:03						
12/29/77			END OF SHIFT AT 16:00				
12/30/77	08:05						
12/30/77			END OF SHIFT AT 16:00				

MODULE 20 = LIFTING PLUG TORQUE STA. STATION 503 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77			END OF SHIFT AT 16:00				
12/28/77	08:00						
12/28/77			END OF SHIFT AT 16:00				
12/29/77	08:03						
12/29/77			END OF SHIFT AT 16:00				
12/30/77	08:05						
12/30/77			END OF SHIFT AT 16:00				

MODULE 21 = LEAK TEST STATION STATION 504 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77			END OF SHIFT AT 16:00				
12/28/77	08:00						
12/28/77			END OF SHIFT AT 16:00				
12/29/77	08:03						
12/29/77			END OF SHIFT AT 16:00				
12/30/77	08:05						
12/30/77			END OF SHIFT AT 16:00				

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